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MEDICAL JOURNAL.

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GEO. GILLETT THOMAS, M.D.

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LIST OF CONTRIBUTORS.

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NORTH CAROLINA
MEDICAL JOURNAL.

THOMAS F. WOOD, M.D.,
GEO. GILLETT THOMAS, M.D., } Editors.

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ORIGINAL COMMUNICATIONS.

OPEN-FISSURE FRACTURE OF THE RIGHT PARIETAL BONE OF A CHILD—TREPHINING—RECOVERY.

By D. W. Bulluck, M.D., Wilmington, N. C.

Sunday, January 18th, 1891, Mary B., aged 3 years 4 months, had a fall from a step seven inches high, striking her head against a floor carpeted with pine-fibre matting. When seen thirty minutes later there were neither signs nor symptoms of head injury, though a careful examination was made. Forty minutes later there were signs of approaching brain concussion—pallor, nausea, dilated pupils general lassitude and a flabby, compressible pulse, and a complete cessation of the process of digestion. At this time a more careful examination of the entire body was made without finding evidence of injury to the head or elsewhere. The child was disposed to sleep, but not markedly stupid. A mercurial cathartic was ordered, and cerium oxalate for the persistent vomiting. Three hours later found that she aroused of her own accord, and complained of pain in the head, an examination revealing the presence of a large hæmatocele, situated a little superior and anterior to the right parietal protuberance. Food was offered which excited vomiting of the undigested contents of the stomach.

January 20—Hæmatocele was aspirated, removing 1½ ounces of black blood.

January 21—Hæmatocele has refilled, breathing is irregular, of Cheyne-Stokes character; pupils widely dilated, all the symptoms having a grave import.

Upon consultation with Drs. Wood and Love, trephining was determined upon, as giving the only prospect for relief.

A crescentic incision was made through the scalp so as to include the whole length of what was diagnosed as a fracture. After the scalp was turned back a firm clot was found external to the skull, which gave somewhat the indication that there was a fracture with depression. This proved not to be so, but a rectilinear fracture, with an open fissure about 2½ inches long.

Chloroform anesthesia was resorted to, but it was of little efficacy, in the early stage of operation, because of the anesthesia due to compression of the brain.

A button of bone was removed with the trephine, including a part on both sides of the line of fracture. A clot was found lying upon the dura mater, about ½ inch thick in the centre, thinning off on the edges, the clot altogether making an irregular circle about 2½ inches across its longest diameter. The clot was firm in its thickest part, and had to be washed out with a gentle stream of sublimated water 1 : 4000, from a Davidson's syringe, breaking the clot up in places with a bent shot probe. As the clot was removed and pressure of the brain relieved, sensation returned, the patient grasping at the operators' hand until anesthetized with chloroform.

As soon as the operation was over and chloroform narcosis recovered from, the patient's intelligence was found to be restored, breathing more natural, pupils sensitive, pulse regular, but fast.

January 23—9 a. m., T. 98.3, P. 130, R. 18, face flushed, a little restless.

January 22—5 p. m., T. 101.3, P. 116, R. 18. Has taken sufficient food, has been asleep 1½ hours, and has passed urine.

January 23—10 p. m., T. 100, P. 126, R. 18.

January 24—10 a. m., T. 98.3, P. 120, R. 19. Vomited at 3 a. m. and 6 a. m..; passed water, and had a very insufficient discharge from the bowels.

January 24—9 : 50 p. m., T. 100, P. 108, R. 18.

January 25—10 a. m., T. 98.3, P. 110. R. 16. Vomited small blood-clots, probably from the throat.

January 25—5 : 30 p. m., T. 98.3, P. 112, R. 18.

January 26—10 : 30 a. m., T. 98.2, P. 118, R. 18.

January 27—10 : 30 a. m., T. 98.3, P. 118, R. 18.

January 28—No morning record.

January 28—5 : 30 p. m , T. 102, P. 120, R. 19.

January 29—9 a m., T. 101.1, P 115, R. 18. Gave antipyrin at 7 : 30 p. m., T. 99.4, P. 112, R. 19.

January 30—10 : 30 a. m., T. 101.3, P. 112, R. 19.

January 30—11 : 30, gave antipyrin.

January 30—7 : 00 p. m., T. 100, P. 116, R. 19.

January 31—10 a. m., T. 99, P. 116, R. 19.

January 31—3 : 00 p. m., antipyrin given.

January 31—5 : 30 p. m., T. not taken.

February 1—10 : 30 a. m., T. 100.

February 1—5 : 30 p. m., T. 100.4.

February 2—10 : 30 a. m., T. 100.3.

February 2—3 : 30 p. m., T. 99.3.

After the above date there was no rise of temperature save for a few hours, on the night of February 5th, which was caused by an attack of indigestion.

February 7—10 : 30 a. m., removed the drainage-tube, drainage having been almost perfect during the whole course of the case.

February 9—Washed out the drainage track for the last time.

February 11—The wound dry and scabbed over. The union is complete and the appearance of the wound healthy as could be desired.

February 12—Dressed and sat up a few hours.

February 13—Sent little patient to her mother's room cured, there being no longer a sign or symptom referable to her injury. At this writing, three months later, nothing has occurred or remains to show that the child has ever been sick, or has undergone an operation save a small scar of scalp, which is entirely covered with hair.

The interesting points in this case are: The short distance, 7 inches, the child fell; the absence of paralysis, the open fissure of the fracture allowing a part of the effused blood to escape under the scalp; the rectilinear, non-depressed fracture.

The slowness at arriving at complete diagnosis was due to the very features in the case, which tended to prolong life, the escape of blood from the cranial cavity and the arrest of hæmorrhage.

No mention has been made of the surgical details, but the established antiseptic methods, with drainage, was the rule

In conclusion, I wish to say that the happy results attained in this case are to be attributed to the wise counsel and judicious surgical interference of Drs. Wood and Love.

A CRITICISM ON THE OBSERVATIONS ON "KOCH'S LYMPH" BY PROF. JOSEPH JONES, M D.

By K. Von Rück, M.D , Asheville, N C.

Messrs. Editors North Carolina Medical Journal:

Dear Sirs:—I beg to acknowledge your courtesy in placing at my disposal the copy of the report of Joseph Jones, M.D., of New Orleans, La., dated April 28th, 1891, entitled "Observations on Koch's Lymph," which you presented at the meeting of the Medical Society of North Carolina, with the request to review the same in the light of our present knowledge upon the subject of Tuberculin.

The report contains nothing of special interest beyond what is already known and had been known at the time when Dr. Jones made it, with the exception that he claims to have found living bacilli resembling and behaving similarly as do the bacilli of tuberculosis. Many similar examinations and analyses had been made and published before Dr. Jones began his investigations, but strange to say in none of the numerous experiments made in the physiological and bacteriological laboratories of Europe and other countries have ever any living germs been found present in the fluid.

Dr. Jones says that upon the dilution of the lymph with boiled distilled water and preserved in chemically clean test tubes the fluid became turbid, and that microscopic examination showed the turbidity to have been due to the multiplication of organisms presenting the physical and chemical properties similar to those of the bacillus of tuberculosis. He does not state the degree of dilution and the length of time it required for the turbidity to occur. Boiled distilled water may and may not be sterilized water, and chemically clean test tubes may not be sterilized and may not be clean in a bacteriological sense. Neither does he show that the turbidity could not also have been due to the development and growth of other germs.

The care and manipulation and the facilities for correct and unassailable investigation in these matters are such that a lack of the slightest deficiency in either direction would make his conclusions certainly very doubtful, if not valueless. I have myself kept such a 10 per cent. solution for over five months, and without all the precautions necessary to prevent error, and the fluid has not become turbid.

I have kept ½, 1 and 5 per cent. solutions without especial precautions for a number of weeks, and they were perfectly clear at the end of such time.

Now, as to the results of culture obtained by Dr. Jones, they are certainly remarkable, and it would be of the greatest interest if the report contained the exact data of the steps and modes of his procedures, the way in which the culture media were kept after inoculation and the time and the precautions under which he made his final examinations.

Dr. Jones being until now a stranger in the field of experimental bacteriology, it would not be unreasonable to ask of him evidence for the remarkable statements which he makes, the more so, inasmuch as men who have at their command the perfect equipment of the bacteriological laboratories of Europe and other countries, and have earned a worldwide reputation in this special field of scientific labor, and who have made similar investigations with "Koch's Lymph," have never found any tubercle bacilli capable of growth or multiplication in that fluid.

That the lymph contains dead or inert bacilli has been well-known since its first introduction, and they can be found in occasional specimens, but heretofore all culture and inoculation experiments have failed, and from the mode of preparation of the fluid we must expect them to fail, if no germs are admitted by error or oversight from without.

These dead bacilli are, however, not found so plentifully even in the sediment from an occasional bottle of the tuberculin as one might suppose from Dr. Jones' report, only here and there we find a bacillus in the field, and more often none at all. Their presence and inertness were known to Prof. Koch and his associates from the beginning and also to the profession, and the mode of preparation, with prolonged exposure to intense heat of the fluid, and its preservation in glycerine after filtration through porcelain, is a sufficient guarantee that we have nothing to fear from them. Moreover, every vial before being sent out of the laboratory is especially tested and examined.

Dr. Jones must or should have known of their presence and of the negative experiments before he undertook the examination of the vial submitted to him.

This question, which in Europe finds now no further attention, having come up in America, it would certainly be interesting if Dr. Jones would repeat his experiments, and if, from the same sample, some well-known bacteriologist, as, for instance, Professor Sternberg or Professor Ernst, could be induced to make control experiments, for such matters require to be definitely settled in the interest of science as well as that of the profession and patients.

It is certainly not intended that living tubercle bacilli should be contained in the tuberculin, and, contrary to Dr. Jones' conclusions, its activity does not depend upon their presence, and this Dr. Jones must have known when he made his report, and his concluding remarks are also entirely unnecessary or hardly in good faith, when he refers to the remedy as a secret medicine, Dr. Koch having given the temporary secret of its source and composition to the world before Dr. Jones came into the possession of his vial. No one was ever asked to use the remedy. In the meanwhile those who do, if influenced by Dr. Jones' report, can make assurance doubly sure by subjecting every solution for clinical use to prolonged boiling, which in nowise interferes with its action, and which I, and, as far as I know, others who have applied it, have always done.

The ½ per cent of carbolic acid can also be increased to any desired strength, as, for instance, the 10 per cent. solution of tuberculin which we make from the original vial can contain 5 per cent.; its 1 per cent. solution would then contain ½ per cent. of carbolic acid, as originally intended. I found, however, that tuberculin solutions containing as much as 1 or 2 per cent. of carbolic acid crystals, are not objectionable for hypodermic use.

I have no doubt that the preparation of the tuberculin is in reliable hands, and that any findings which would justify even the remotest suspicion as to the presence of active tubercle bacilli or other micro-organisms would promptly lead to a revision and increased precautionary measures in its preparation, for indeed it cannot be a matter of great difficulty to sterilize the remedy, and control experiments are daily being made in the laboratory of its production to assure its uniformity and freedom from germs.

ATROPINE IN ENURESIS.—The following is a brief account of a trial with atropia in 12 chronic bed-wetters in the New York Infant Asylum, Mt. Vernon, N. Y : Nine boys and three girls, the ages ranging from 4 to 10 years, were selected for treatment. It is a custom in the institution to put the children to bed at 6 o'clock and to take them up at 10 to urinate. Being desirous of testing the value of atropia, the habits of life were not changed. The plan of treatment was that used by Dr. Wm. Perry Watson. A solution, consisting of 1 gr. sulphate atropia to 1 oz. distilled water; of this one drop was given for every year of age of the patient, at 4 and 7 p. m.; one-half of this quantity was given, however, in each case for the first few days; no unpleasant symptoms followed, and the full amount was given. Physiological symptoms were produced in three, but were unimportant. After six weeks slight improvement was noticed in four; at the end of the third month these four wet but once or twice a week. Seven were well at the end of the fifth month, rarely wetting Treatment continued two months longer, when the dose was reduced one-half; this was given two months and stopped. It is nine months since treatment was stopped, and there has been no return of the trouble. The other five, which includes the girls, showed but slight improvement at the end of the fifth month of treatment, wetting nearly every night. During the next three months improvement was gradual, and at the end of the eighth month they wet not oftener than twice a week. During the tenth month there was only an occasional wetting. The dose was reduced one-half, and after one year of continuous treatment there was no wetting. The atropia was stopped, and there has been no return of the enuresis in six months, Eighteen months ago we had 12 chronic bed-wetters of the worst order; to-day they are well—the only medicine used was atropia, given as above.—*Archives Pediatrics.*

PRESIDENT'S ADDRESS.

By Richard H. Lewis, M.D., Raleigh, N. C.

(Delivered before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

Fellow-Members of the Medical Society of the State of North Carolina:

It would seem that under the inspiration of surroundings of such beauty and grandeur as this romantic "Land of the Sky" presents, lofty and noble thoughts, clothed in graceful and poetic language, ought to come to one almost unbidden; but unfortunately your speaker is not gifted with the divine afflatus, and must therefore confine himself to a prosaic statement of facts, with certain conclusions and suggestions derived from them.

In the decade that has passed since we last gathered in this prosperous and hospitable city, many things of interest and importance (as was to have been expected in this rapidly-growing age) have occurred. While we have been called on to mourn the departure to the Better Land of many of our noblest and best, and among them none with more sincerity than him who at that time filled the Chair I now occupy—Dr. Richard B. Haywood—and who delighted us with a characteristic address, so filled was it with quaint and interesting information, genial humor and kindly spirit; still, as an organization, we are proud to chronicle decided prosperity and marked advancement. In that time we have seen our medical laws so amended as to make them really effective, and, in the opinion of many outside our own borders, the best in the country; our Board of Health placed on a solid basis; our Medical Journal firmly established, and the general standard of the Profession gradually elevated, until now we claim, and in no boastful spirit, that its average is as high as in any State of the Union. But although these things are true, we have not yet reached the goal towards which should, in a united effort, continue to press earnestly forward. The subject of paramount importance and interest to the profession of the State, and therefore to the Medical Society of the State of North Carolina, remains, as it has been for several years past, the still further progress in the better education, and, *pari passu*, professional elevation of those who yearly join our ranks. The accomplishment of these objects is to be obtained through—

1. The laws regulating the practice of medicine in the State.
2. The extension by the Board of Medical Examiners of the requirements for license.
3. The development of a decided *esprit du corps* among those already in practice.
4. The patronage of high grade preparatory medical schools.

1. THE LAWS REGULATING THE PRACTICE OF MEDICINE IN THE STATE.

The General Assembly, at its recent session, amended the law by extending the time of registration to January 1st, 1892, and by striking out the exhibition of a "diploma from a regular medical college, dated prior to March 7, 1885," as a condition of registration. The first amendment was thought advisable for the reason that the number of physicians in the State still unregistered, many of them men of such standing and influence in their communities as to defy the law with impunity, constituted a serious stumbling-block in the way of its enforcement. On one occasion, hearing that the law was violated in a certain county, I took it upon myself, as the representative for the time being of the profession in the State, to write to the presiding judge, asking him to charge the grand jury upon our law, and to the solicitor, requesting him to push the prosecution of the offenders. Notwithstanding the fact that the judge charged strongly in our favor, and the solicitor presented an indictment, with complete evidence in its support, the grand jury simply ignored the bill. So that, as much as I dislike to make such an admission, I am forced to confess that public opinion in one locality, at any rate, has not grown up to our present law; and it is an aphorism that no law can be enforced which has not public opinion behind it. This indifference on the part of the people, if not caused by, is certainly reënforced by, indifference or open defiance on the part of their trusted, and, in many instances beloved, medical advisers, As long as such a class of practitioners outside the law remains new-comers, who, realizing their ignorance and incompetency, refuse to apply for license; or those, applying and failing, who continue to practice, can find countenance and support. But if every man in the State, pretending to practice medicine, who is entitled under our laws to register—no matter how incompetent, in fact, for the people are not always safe judges of scientific acquirements, and especially in the line of medicine—was on the registration book, those proposing to practice in violation of the law would not have any such moral support—they would stand out so exposed and conspicuous that few would have the courage to attempt it. It is true that the present Board of Medical Examiners, after consultation with the outgoing Board at the last meeting of the Society, adopted a special license to be issued without examination, on application, to all worthy physicians who, while entitled under the law, had failed to register, so that that they might legally do so. But the practical difficulty was that a great many knew nothing about that arrangement, or if they did, feeling safely entrenched in the support of their neighbors, were too indifferent to take the trouble to apply. Consequently it was thought wise to make it easier, in order that everyone having the right might be induced to register, and so the time was extended. To further assist in accomplishing this, I decided, after submitting it to the President of the Board of Medical Examiners, and obtaining his approval, to send the following joint letter to every Clerk of the Superior Court in the State. And it has been done :

RALEIGH, N. C., April 24, 1891.

CLERK OF THE SUPERIOR COURT,
———————, County, N. C.

DEAR SIR :—At the recent session of the General Assembly the law relating to the registration of physicians (Chapter 181, Laws 1889) was, as you doubtless know, amended by extending the time to January 1st, 1892, and by striking out in lines four and five of Section Four the words "or a diploma issued by a regular medical college prior to the seventh day of March, 1885. Hence, only physicians exhibiting a license from the State Board of Medical Examiners, or making oath that they were practicing medicine in this State prior to March 7, 1885, are now eligible to registration. In regard to what constitutes, in the eye of the law, "practicing medicine," we would respectfully call your attention to the appended extract from a recent letter from the Attorney General on this subject. At the same time we would request you, not so much in the interest of the medical profession as for the protection of the people from ignorant and incompetent men, to exercise the discretionary power vested in you and refuse to register any one who has not a real *bona fide* practitioner of medicine before March 7, 1885, and in this State.

We would also ask you to use your best endeavors to induce all unregistered physicians in your county, who are clearly entitled to, under the conditions above set forth to register, to do so, for the sake of carrying out the law and of saving them from the danger of future prosecution.

The Attorney General, in his letter of March 14, 1891, says: "In 1887 the Supreme Court of this State was called upon to construe the same words ('practice or practicing') in its application to lawyers, and the Court laid down this rule: 'To constitute a practicing of law, within the prohibition of the statute, it is necessary that the person charged with its violation shall have customarily and habitually held himself out to the public as a lawyer, or that he demanded compensation for his service as such.' (*State vs. Bryan*, 98 N. C., 644.) It would seem that the Court intended to establish two standards by which to measure the words 'practice and practicing': (1) The customary and habitual holding oneself out to the public as a lawyer; (2) or that one occasionally performed some professional act and demanded compensation for his services. Of course the same principle of interpretation will apply to the Act in relation to physicians."

Very respectfully,
RICHARD H. LEWIS, M.D.,
Pres't N. C. Med. Society.
W. H. WHITEHEAD, M.D.,
Pres't N. C. B'd Med. Exam.

Some will, before they think, doubtless be disposed to criticise the wisdom of what has been done, on the ground that it will let in a number of ignoramuses who are now shut out. For their comfort and satisfaction, I would call attention to the fact that very few of that class failed to register; and I would add that even if they were still numerous it would be much better to give them the privileges of a certificate of registration than to keep out many really good men, who are too strong with their people to be successfully prosecuted, and who, by living in open and, *ipso facto*, contemptuous violation of the law, render it practically null and void. The customary non-observance of any law will surely make it a dead letter.

When the committee appointed at Fayetteville, with power to use their discretion in preparing and presenting to the General Assembly for adoption any amendments that they might deem wise, prepared the amendment requiring registration on the part of every one practicing medicine in this State, they realized that the exhibition of "a diploma from a regular medical college, dated prior to March 7, 1885," as a condition of registration, would admit without examination that class from other States; but after discussing the matter at considerable length with the eminent legal counsel employed, a qualification of it, so as to restrict the privilege to those practicing in our own Commonwealth, was found to so cumber and confuse the phraseology that, in view of the strong probability that very few who had been at work so long in other States would avail themselves of it, they deliberately decided to leave that one little hole open. It is true that the diploma condition might have been omitted altogether (as now), but it would have been neither just nor expedient to have forced large numbers of regularly graduated physicians, including very many most excellent men in every respect, who, in the concession made in 1885 in order to secure the greatest advance in all our medical legislation, viz: the penalty feature, were put on a level with licentiates, to register on oath, thereby placing them in the same category with conjurors, "root and yerb" doctors *et id omne genus.* The Committee, however, did not realize that this beautiful mountain country of ours would become, in so short a time, a sanitarium of such wide popularity; nor that numbers of the class of medical men who follow up the valetudinarians, as bluefish the shoals of mullets on our coast, might come into this section under the diploma clause. As soon as satisfactory evidence was furnished that it was a real grievance, inasmuch as the graduates had mostly registered, and as the Legislature had become too engrossed with other matters more interesting to its members to allow time for tampering with our law, it was thought safe to bring forward the amendment striking it out. The knowledge that some members of the Farmer's Alliance had given indications of hostility to medical societies generally; the information that a bill to repeal our present law would be introduced; and the actual introduction of a bill entitled "An Act to regulate the charges of doctors," suggested prudence in agitating the subject of medical legislation. It appears that the Legislature of our sister State of South Carolina did abolish their Board of Medical Examiners, but, as it turned out with us, no hostility to our profession materialized. The bill to repeal was not introduced, and the act to regulate charges, etc., was so absurd that it was never called up Most of you have no doubt seen and laughed over it in the JOURNAL. We were fortunate in having some strong members of the Society members of the Legislature—among them Drs. Speight and Galloway in the Senate, and Drs. Stancill and Tatum in the House, as well as other medical friends, not members of the Society, who watched our interests in common with those of the rest of the people.

2. THE EXTENSION OF THE REQUIREMENTS FOR LICENSE BY THE BOARD OF MEDICAL EXAMINERS

The construction of the word "competent" is entirely with the Board. The applicant for license to be "competent" should certainly be sufficiently instructed in the different branches of medicine as to make him a reasonably safe practitioner. Now, I hold that no physician, no matter how brilliant intellectually, nor how well educated in the theory, is a safe practitioner who has not had some clinical experience, at least in obstetrics and the practice of medicine. This being true, the Board would be justified in requring satisfactory evidence that this experience had been obtained. We all know how utterly inadequate the so-called clinical lectures to large classes are, and we should so set our standard as to secure, after a certain date in the future, genuine clinical instruction of real practical value. The nominal evidence of this instruction would have to be in the form of a certificate of attendance upon such teaching for whatever length of time the Board might think proper; but, in order that the evidence might not be merely nominal, it would be well for the Board to announce that if not all, some, at least, of the applicants, to be selected by lot, would be required to apply bandages and splints, and to diagnose and prescribe for disease in the living subject. A variety of chronic cases could, no doubt, be obtained from among the poor sick for a small consideration in any town large enough to accommodate the Society. On the same line, it would be advisable in the examination on Materia Medica to require the identification of drugs—at any rate of those in every day use. This matter is of special importance to us, because, from the nature of our environment, an immense majority of our medical men are compelled to practice in the country—remote from help in emergency cases. No better practitioners can be found, in my opinion, than the best of our country doctors of years experience. Necessity has been the mother of invention with them, and, forced to rely upon themselves, they have thoroughly utilized that experience. But as to the number of sign-boards pointing to the Happy Hunting Grounds that mark the beginning of their professional journey, the result in most instances of the lack of just a little practical knowledge, it would perhaps be in good taste not to enquire. It is clearly the duty of the Board of Medical Examiners, who are officers of the State, to secure, as far as lies in their power, the protection of the people whose servants they are. These things being entirely within their jurisdiction, what I have said is intended, of course, merely as a suggestion. I will also take the further liberty of respectfully urging upon our new Board, which is now engaged in holding its first examinations, the great importance of keeping up the standard reached by their predecessors, and likewise the value of the written examination signed with a *nom de plume*, as insuring perfect fairness and impartiality, and rendering their position impregnable should complaint be made.

3. A SPIRIT OF PROFESSIONAL PRIDE ON THE PART OF THOSE NOW IN PRACTICE.

At the Raleigh meeting, in 1884, the following resolution was adopted :

Resolved, That, as members of the Medical Society of North Carolina, we pledge ourselves not to admit to our offices as students any persons who cannot satisfy us, by personal examination, that their preliminary education is sufficient to enable them to pursue the study of medicine.

This was a step in the right direction, and I wish to remind, not only the members of the Society of the pledge, but also to call to it the attention of all respectable physicians in the State who desire the welfare and progress of their profession, and ask them to join with us in carrying it out. A pronounced public opinion is practically irresistible, and if we can succeed in getting this resolution accepted and emphasized by a large proportion of our medical men, we shall make a very decided advance. A strong development of this feeling of *esprit de corps* by adding to the honor and dignity of our profession, would give our opinions more weight with the people and help to build up among them a public opinion in support of our laws, thereby rendering their enforcement much easier and more certain. We must respect ourselves if we wish to obtain and keep the respect of our neighbors.

4. THE PATRONAGE OF HIGH GRADE PREPARATORY MEDICAL SCHOOLS.

I know of nothing that in my opinion would do more to insure a really good medical education than the devotion on the part of our young men of their initial year to work at a first-class preparatory school in which are thoroughly taught the fundamental branches, and they only. It is simply impossible for one to study to the best advantage with a physician in active practice, for the reason that if he is well informed himself he is nearly sure to have his time absorbed by his practice and the reading that he must do; and because, further, in the large majority of instances, no matter how able, he has neither the gift nor experience of teaching. Besides, the atmosphere of a doctor's office, with its manifold interruptions, is by no means conducive to study. The exigencies of his practice on the part of the preceptor render anything like regularity in lessons impossible, and the student forms, in the beginning of his career, loose, slip shod habits of work, from which, perhaps, he never recovers. And so, instead of laying deep and broad the foundations of his professional life in this first year, he often worse than wastes it. Commencing study at the ordinary city medical school is still more unsatisfactory. In most of them the course is not graded and the medical infants and adolescents are fed on the same food. A great deal of it is beyond the digestive powers of the beginner, and it is no wonder that he has no stomach for it and turns to the distracting delights of the city, which, in many instances, he visits for the first time, and cares much more for the suppers with Bob Sawyer, Ben Allen and Jack Hopkins than for his studies. The genuine preparatory medical school, situated at some institution of general learning with its studious atmosphere, is not saddled with any of these objections. And we are very fortunate in having two such schools in our State. The one established several years ago at Davidson College by our distinguished fellow-member, Dr. Barringer, and continued by his worthy successor, Dr. Monroe, is well and favorably known to you. Since our last meeting a second one has been established at the University by Dr. Richard H. Whitehead, and I feel that in this we have cause for congratulation, for, besides his phenomenal record at the University of Virginia, he is the son of his father, Dr. Marcellus Whitehead, of Salisbury, the devoted member of our Society, the learned and skilful physician, the noble-hearted man, the peerless gentleman, the brilliant and fascinating conversationalist, the genial, charming companion, the loyal friend, whom most of us remember with so much pride and affection. These two excellent schools are strictly preparatory, the fundamental branches only being taught, and they are, I feel sure, worthy of our cordial endorsement and active support.

While on this subject I feel it to be my duty, as your President, to call attention to the following extracts from the public prints. In the New York *Medical Record* of April 4th appears this item:

"A NEW MEDICAL COLLEGE IN NORTH CAROLINA.—At a meeting of a number of prominent physicians of North Carolina, held at Durham, in that State, upon March 18th, to consider the question of establishing a Medical College in connection with Trinity College, the preliminary arrangements were perfected, leading to the organization of a school of high standing, thorough equipment and three year's course."

The account of the meeting referred to, given by the Raleigh *Chronicle* of March 4th was, omitting names and non-essential matter, as follows:

"TRINITY MEDICAL DEPARTMENT—A SCHOOL OF MEDICINE PLANNED BY PROMINENT STATE MEDICAL MEN—IT IS TO BE A GREAT SCHOOL, NOT TO BE SURPASSED BY ANYTHING OF ITS KIND IN THE SOUTH—THE PLAN DRAWN.—A school of medicine in North Carolina at last! That is the good news we hear from a recent conference of medical men in Durham. * * * It was yet in the minds of medical men all over the State that Dr. ——— had at the last two meetings of the Medical Association introduced and advocated a resolution to appoint a committee on the part of the Association to confer with a like committee from the Board of Trustees of the University with reference to the establishment of a Department of Medicine. It was remembered that this was voted down. Acting upon the belief that their hope in that direction was gone, this meeting in Durham was held with President Crowell of Trinity College, in order to see how such a department could be established at Trinity College in Durham. It was decided that a school be established, to be called the Medical Department of Trinity College. It is to have seven distinctive professorships, as follows: Anatomy, Physiology, Practice, Surgery, Materia Medica, Obstetrics and Chemistry.

"The school shall be first-class in every respect and have nothing but first-class instructors, laboratories, etc. A first-class Hospital shall be built in connection with it, and President Crowell was instructed to look after the possibility of raising the funds to build separate buildings. * * * These are the plans: We hope they will be carried out. Every year North Carolina gives $50,000 worth of patronage to other States, and she can then save it to herself. Such an institution could be made a great success, and we hope it will. If the Legislature arranges it so that a graduate of that school can be granted license on his diploma (as is done by other States), then most all of our young men will get their education here. Let the good work go on."

I have been informed by Dr. Bahnson, whose name has been associated with the enterprise, that he would not consent to even consider—should it be made to him—a proposition to join in the proposed school except upon the assurance that it was to be only preparatory. I have also read the editorial in the April JOURNAL saying that the reports as to the character of the school were "somewhat exaggerated"; but these statements are not authoritative enough to relieve me of the duty of at least bringing the matter before you. Still they do relieve the situation to a certain extent, so that what I shall have to say on the subject is based on a hypothesis. *If*, then, these reports represent at all correctly the intentions of the authorities of Trinity College, I cannot, as a faithful sentinel on the watch-tower, say, "All's well." On the contrary, I believe conscientiously that I would be derelict were I not to sound the alarm. At the New Berne meeting the Committee to which was referred the resolution to take steps for the establishment of a Medical Department at the University of the State, made the following report: * * * "That in their opinion, there is no necessity for the addition of a Medical Department to the State University, and that, at present, the scheme is utterly impracticable. It is, furthermore, the opinion of the undersigned that neither the interest of the profession nor the public would be advanced by the establishment of such a department. In a word, that the interest of the profession and the public would be more enhanced by the support of a few good schools than by the establishment of many bad ones.

(Signed) "C. J. O'Hagan,
"T. D. Haigh,
"H. T. Bahnson,
"J. Graham."

Although much interested in the success and renown of the University, I thoroughly endorsed that report, and since that time I have been only the more confirmed in my opinion that it was eminently wise and is as applicable now as then.

It is so self-evident that location in a large city is a *sine qua non* to a first-class medical school granting diplomas, that I will not take up your time arguing the matter. North Carolina has no such city, and it therefore follows that the establishment of a school of such pretensions within our borders is to be deprecated.

The mere suggestion of applying to the Legislature for such a change in our medical law as to exempt the graduates of that, or any other medical school, from examination by the Board ot Medical Examiners of the State, should fill us with apprehension. By the passage of such an amendment, practically, all that we have accomplished in the way of legislation for the advancement of the profession in the past thirty years would at one stroke be obliterated. Our dear old State, that, as far as results are concerned, was the pioneer in the movement to regulate the practice of medicine by law, by having the competency of those offering their services to her people passed upon by the *disinterested*, and *therefore* a surely impartial Board would lose her proud position in the very forefront of the line of medical progress and be relegated to the rear. Any movement looking to that end would probably meet with so strenuous and earnest an opposition on the part of the best friends of real medical advancement as to insure its defeat; but the mere agitation of the subject before the Legislature would be fraught with danger. The laity neither understand nor appreciate, as they ought, the value to them, as well as ourselves, of our license law; the talk of keeping money in the State is weighty with the average legislator; the school would have its special friends, and there would surely be a number who, for one cause or another, would be against all restrictions on the practice of medicine; and the danger of the passage of the amendment, or a repeal of the whole statute, let me assure you, fellow-members, would not be an imaginary one.

I do not believe that the gentlemen whose names have been associated with the undertaking would knowingly do aught to injure the profession. Nor can the Society claim the right to prescribe the character of the enterprise its members may undertake, provided they are ethical; still, there can certainly be no question as to the propriety and advisability of an expression of opinion on anything likely to place in jeopardy the valuable results of years of effort on its part And just at this juncture, it would not only be proper, but wise (it certainly can do no harm, and it might do good), for the Society, in a suitably framed resolution, to emphatically pronounce against the establishment in our State of anything in the way of a medical school more pretentious than a purely and exclusively preparatory one, embracing in its curriculum the fundamental branches of anatomy, physiology, materia medica and chemistry, with the sciences collateral to medicine. A school of this character at Trinity would of course be as unobjectionable as those now in existence. In the resolution suggested it would also be well to incorporate a formal expression of opinion as to the minimum facilities of instruction and requirements for graduation on the part of the colleges that would receive the endorsement and support of the Society.

THE PROPOSED AMENDMENT TO THE CONSTITUTION ABOLISHING THE NOMINATING COMMITTEE.

The subject of most importance to the Society, as an organization, to come up at this session, is the resolution introduced by Dr. J. W. McNeill, at the last meeting, to amend the Constitution by abolishing the Nominating Committee and having all officers of the Society elected by ballot. As I am able to say with perfect sincerity that I would be glad to be relieved of the responsibility of appointing a Nominating Committee, and as my position in regard to the proposed change has been declared in a former meeting, I feel the less embarrassment in performing the duty of expressing to you, as forcibly as I can, the reasons upon which is based my belief that the pending amendment is calculated to greatly injure the Society. The reasons for its adoption, so far as I understand them, are, (1) that, under the present arrangement, the President has practically the power of naming the officers of the Society; and (2) the desire, so characteristic of the American citizen, to take a hand in everything that is going on. As to the first, I am confident that it has been very rarely, if ever, consciously exercised; and, saving, of course, the present incumbent, I am quite sure that the selections of the Nominating Committees have been, for the most part, eminently judicious and satisfactory. In regard to the second, it ought to be enough to say that science and politics are incompatibles. Most of us are filled with party spirit, and, in the event of the adoption of the amendment, it would not be long before the Society was split into two or more actively hostile factions. So fascinating are these partisan contests to many, that everything else would be subordinated to them, and from this would arise the principal objection to the election of officers by ballot, namely, the consumption of too much time. When it is remembered that we are already required by law, or custom, to elect every year either members of the Board of Health or of the Board of Medical Examiners, the force of this objection will be more apparent. In addition to the serious interference with the proper business of our meetings the caucusing, log-rolling and electioneering generally, inseparable from most elections, must be carefully borne in mind. We should be thoroughly satisfied as to the reality of the grievance and our inability to correct it by less objectionable means before we consent to allowing further scope for the exercise of these instrumentalities so pregnant with the elements of discord. Under their baneful influence our Society, of which we are so justly proud, instead of remaining, as in the past, the nursery of everything looking to the elevation of the profession and the good of the people in all matters relating to health, would almost surely degenerate into an organization chiefly political. The kindly good-fellowship that has hitherto marked our meetings would give place to the bickerings, envyings and strife that are inherent in politics. At the same time I feel that if a majority, or even a respectable minority, are dissatisfied with our present method of selecting our officers, their dissatisfaction ought to be removed if it can be done without incurring the objections mentioned. To that end, therefore, as fulfilling both conditions, I would respectfully suggest a plan brought forward by me at the Durham meeting (and once or twice before essentially I have since learned), not that I favored it more than the present one, for I voted against it myself, but merely to allow an expression of opinion in order to quiet certain murmurs of discontent that could then be heard. It is this: Retain the Nominating Committee, but have it consist of nine, instead of five, members. Let the members of the Society from each of the nine Congressional Districts, meet, say, immediately after the oration, or essay, on Wednesday night, or at some other definite time, and select one of their number to serve on the Committee, and require the full Committee, thus elected, to meet on Thursday morning at 9 o'clock, to insure promptness. To anticipate the objection that such a substitute as the above would, under the Constitution, have to lie over a year unless unanimously adopted, and could not go into operation at this meeting, as the amendment would, I will say that if it should be adopted it would give me much pleasure to select from the nine five by lot and appoint them as the Nominating Committee. At the next meeting it could be regularly adopted and the full Committee act. It seems to me that some such arrangement as this ought to satisfy all parties, and, at the same time, save us from making what the experience of many similar bodies, as well as of our own Society many years ago, I am told, has proved to be a serious blunder.

Before leaving the subject of the Nominating Committee I wish, in case it should be continued, to call your attention to the resolution adopted at New Berne enjoining secrecy on its members, as it seems, on certain occasions since, to have been overlooked. The wisdom of the resolution suggested by President Graham few, I am sure, will question.

CONSTITUTION AND BY-LAWS.

Our business machinery, with its numerous sections, seems rather elaborate and cumbersome for a body of our size, but as it appears to have brought out more papers than any former plan, perhaps a change might not be for the better. But our Constitution and By-Laws are in a lamentable state of confusion, and contain, besides, many dead or dying branches that could be lopped off to advantage both to perspicuity and consistency—for example, "The Committee of Scientific Inquiry," which might be denominated a rotten branch without doing the slightest violence to truth. This condition of things should be suffered to exist no longer than is absolutely necessary. I would, therefore, respectfully suggest that a committee of three be appointed with instructions to codify our laws to date, and having done so and ascertained what the laws are, to suggest a compact and shapely substitute for the whole, if, in their judgment, they think it advisable. The codified laws and the proposed substitute should be published in the January number of the JOURNAL, which, as you know, is the official organ of the Society. In this way the members would have plenty of time to consider the subject carefully and be prepared to suggest further amendments, either in the ensuing issues of the JOURNAL, prior to the meeting, or at the meeting itself. "In the multitude of counsellors there is wisdom," and by this method the aid of many minds could be obtained. Since it would be necessary, in order to obtain a first-class committee, to select men who are already very busy, and as the amount of work put upon them would be very considerable, I would recommend the appropriation of a reasonable sum for clerical help.

THE NORTH CAROLINA MEDICAL JOURNAL.

As has just been said, the NORTH CAROLINA MEDICAL JOURNAL is the official organ of our Society. It has been the means of doing more for the advancement of everything pertaining to the progress and elevation of the profession in our State than any one single instrumentality known to me. It is therefore deserving of our grateful and cordial support, and we should look upon it as a pleasant duty to render that support, not only in the form of subscriptions, but in contributions to its pages. It is our proud boast that the average knowledge and attainments of our North Carolina profession is fully equal to that of the medical men of any other State in the Union, and yet what evidence do we give of it to outsiders. We hide our light under a bushel, when we should let it shine before the medical world. It is true that the bushel is tilted at our annual meetings and some rays find their way out through the papers read on those occasions, but after they are absorbed we remain for the most part either in darkness or a deep twilight, so far as any illumination from our pens is concerned. It is a shame to us that this is true, and we should not be content to continue longer under such a reproach. For this reason—that we write so little for our home-paper—and for the further reason that volumes of transactions are not much read, I think the demand of some for an early publication of the transactions in full probably unwise, and certainly ungenerous. We surely cannot suffer a loss of dignity in following in this matter the practice of such societies as the American Medical and the British Medical Associations. We have upon our roll the names of many talented, accomplished and ambitious men, especially among our younger members, and I trust they will come to the front and remove all occasion for complaint on this line.

CONFEDERATE RECORDS.

The committee to collect statistics concerning Confederate veterans, appointed at the last meeting, has been industriously at work and has made decided progress. Blanks have been prepared for general distribution and you will be supplied during the session, and I earnestly hope that each ex-Confederate medical officer into whose hands they may come will not only fill in for himself, but likewise for any of his friends and neighbors with whose history he may be familiar, and mail promptly to Dr. Thomas F. Wood at Wilmington. It is of the greatest importance for the honor of the profession and for the sake of history, that these records be made up before the parties most in interest pass from the scene.

MEMBERSHIP IN THE SOCIETY.

In accordance with our By-Laws a number of our members are dropped every year for non-payment of dues. Most, if not all, of these are good men and true. Their friendly support of the Society and its efforts for the improvement of the profession is greatly to be desired Every worthy medical man in the State should, if possible, be enrolled as a member of the Medical Society of the

State. So, in order to keep these members who are delinquents, not from any unworthy motive, but most likely from carelessness or forgetfulness, with us, and at the same time not to permit them to eat at precisely the same table with those who do their full duty, it has been suggested that we follow the example of the American Public Health Association and certain other societies, and simply withhold the Transactions until their dues are paid. I cordially endorse the suggestion and commend it to you for adoption. In addition I would further recommend that those who have been dropped from the roll during the last two years be reinstated forthwith; and all others losing their membership by non-payment of dues before that time who remain sufficiently interested in the Society to do so on application. I think it would also be well to re-admit into full fellowship pecuniary delinquents of more than two years standing on payment of the amount of the initiation fee.

OUR RELATIONS TO THE BOARD OF HEALTH.

I cannot close without directing attention to the less than half-hearted support our health laws receive from the members of the profession, all of whom are *ipso facto* members of the County Boards of Health. In many instances they seem to show no disposition to do their duty, even in the matter of reporting to the County Superintendents cases of contagious disease. Whether this arises from an honest disbelief in the value of sanitary precautions, from laziness, from jealousy of the Superintendent, or what not, it is a clear neglect of duty for which we should blush. And unfortunately it is a delinquency that may in some instances result in a widespread epidemic of deadly disease. Let us try to do better in this particular and render our health authorities a more cordial and efficient support. The greatest of all recent advances in our business of saving life and preserving health is to be found in the development of the present methods of preventing disease, and not to be abreast of this movement would show an indifference to the cause of humanity unworthy of us. We should not rest easy until all grounds for complaint are removed.

CONCLUSION.

During the year that has elapsed since assuming the responsibilities of the presidency I have, as occasion arose, conscientiously striven, to the best of my ability, to preserve and to advance the honor and the interests of the Society and of the profession in the State. The duties of a presiding officer are usually neither light nor easy, and, in common with all mankind, I am liable to make mistakes; but I trust that my association with you for the past fourteen years will suffice to justify the belief on your part that such errors as I may commit spring from defective judgment, and not from ill-will or partiality. It shall be my earnest endeavor to be just and courteous to all and to rule with fairness and kindly firmness, with an eye single to the best interests of the Society, and with your help to make our Thirty-eighth Annual Session mark a distinct advance in the career of the Medical Society of the State of North Carolina.

Finally, gentlemen, I desire to again express to you my sincere appreciation of your partiality in conferring upon me the highest honor within your gift, and to add the hope that I may not prove unworthy of your confidence.

INFLUENCE OF SEX IN EAR DISEASE.—Dr. Loewenberg, of the city of Paris, discusses the influence of sex in what he calls the "lateralization" of ear disease. After referring to the view generally held by otologists that the left ear is more liable to be attacked alone, or to be attacked first and to suffer more severely when both ears are affected, he says that he has for a long time past been struck with the fact that, while deafness is more common on the left side in men, the same does not hold good in the case of women. From statistics of 3,000 cases (not including diseases of the concha and external meatus) which have come under his own notice, he shows, in the first place, that the male sex is more subject to ear disease than the female, there having been 1,790 of the former to 1,210 of the latter. Among those in whom only one ear was affected there were 478 men and 311 women. The right ear alone was affected in 212 men and 167 women; the left alone in 266 men and 144 women. Deafness existed in both ears in 1,074 men and 737 women. Among this number the right ear was the more deaf of the two in 427 men and 340 women, the left in 647 men and 397 women. Deafness was equal on both sides in 238 men and 162 women.—*Brit. Med. Jour.*

THE PRESENT STATUS OF PULMONARY TUBERCULOSIS.

By KARL VON RUCK, B.S., M.D., Director Winyah Sanitarium for
Diseases of the Lungs and Throat, Member Climatological
Association, American Public Health Association,
American Medical Association, etc., etc.,
Asheville, N. C.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

It is not my intention to present in this paper an exhaustive review of all the well-known and established facts and theories on the subject of Pulmonary Tuberculosis, but rather to deal with questions which within the last decade have more particularly occupied the attention of the profession, and in doing so I at once refer to the revival of interest created by the discovery of the bacillus of tuberculosis by Professor Robert Koch in 1882, from which time, it may be said, dates the new era in the history of the disease under consideration.

Although the discovery was assailed by various observers, as is the case with every new and important announcement in science, the position which the scientific world assumed toward it was unique in its prompt and universal acceptance, without subsequent addition or deduction of the facts stated by the discoverer, and no necessity exists for the adduction of any proof, on my part, as to its correctness.

Still, the etiology of tuberculosis is not entirely contained in the word "bacillus," and clinical observers have since successfully shown that, while the causative relation between the infecting micro-organism and the disease is undoubtedly true, another and equally important factor enters into, and is necessary for, the production of the disease.

This factor is the acquired or hereditary predisposition on the part of the infected organism, and no amount of theoretical reasoning or laboratory evidence has eliminated this clinical experience. The seed must find a proper soil for germination, growth and further development.

Much has been written to show wherein this peculiar predisposition really consists, but it would lead me too far to enter into the various views of different authors, neither is it necessary for its proper elucidation and understanding.

It is not peculiar to tuberculosis, but finds application with most, if not all, infectious diseases. Experience has shown that the offspring shows peculiar resemblance, not only in physiognomy, but also in constitution, physical development, temperament and mental aptitude to the parent, and not only is this true of the human family, but it finds equal, and sometimes even more striking, exemplification in the animal.

We know also that in certain families a greater tendency to the acquirement of certain diseases exists than in others: parents of weak constitution and deficient physical development, as a rule, beget children lacking in a similar way, and it is not only the tubercular, but other constitutional impairments, which are transmitted and the offspring falls a more ready victim to causes which in one more vigorous would have been inoperative. Such impairment may, of course, also be acquired, and the offspring suffer on that account in the same manner.

In the predisposition to tuberculosis a faulty development of the chest, a small heart, a vulnerable digestive apparatus, previous disease of the air-passages, other severe and exhausting disease not yet recovered from, anæmia, and unhygienic habitation and surroundings, all tend to deficient cell-nutrition and consequent lowering of the resisting power against the invasion of pathogenic micro-organisms.

The study of heredity and acquired immunity from certain diseases has been of interest ever since Jenner's time, and the experimental investigations, especially of Metchnikoff and Buchner, have led us far toward a final solution of the causes, which, of course, explain at the same time the opposite subject of predisposition.

Metchnikoff demonstrated that the mobile cells, the leucocytes and also certain fixed tissue cells have the power of taking up within their cell wall and of digesting and destroying disease germs, he demonstrated this to occur also with the bacillus of tuberculosis, showing the prompt migration of leucocytes to the point of infection, or wherever any irritation or injury has occurred to the living tissue. If the leucocytes are in sufficient number, and their vitality is such as to enable them to manifest the highest degree of activity, the intruding germs are promptly surrounded, taken up and eliminated. Therefore an organism whose migratory cells are deficient in number or in a state of low vitality through hereditary, acquired, permanent or temporarily induced defective nutrition, presents a favorable battle ground for the infecting germs and a predisposition to their growth and extension.

H. Buchner, on the other hand, has conclusively shown that not only the living cells of the organism have the power to destroy and eliminate pathogenic germs, but that, under certain conditions, the blood serum too has the power to kill them, at least the serum from certain animals destroys certain disease germs in a certain time, and the serum from an animal, which before protective vaccination was inoperative, had subsequently the power to kill the germs of the disease, against which the protective inoculation was made.

These highly interesting facts, as before stated, give us a more perfect understanding of the questions of predisposition, which remain not only an important factor in the etiology of tuberculosis, but form the keystone to all our therapeutic efforts in that disease.

Important changes in our views upon the pathology of tuberculosis have also followed the discovery of the tubercle bacillus. In the first place, we have learned to differentiate the tubercular from all other affections, and no bacillus, no tuberculosis remains an unimpeachable dictum.

The tubercle is always the result, or product, of the engrafted germ, requiring for its development in the animal from two to three weeks after infection. Once formed, we have the stage of infiltration, which usually obtains without marked symptoms, and constitutes in the pulmonary affections the first stage of the disease.

Formerly authorities agreed that caseation was the only change the tubercle could undergo, but more recently it has been maintained that it can be absorbed without first having undergone such degenerative process. Caseation is, however, the usual change, and occurs rapidly, as a rule, in the course of a month or six weeks, during which the surrounding tissues are acted upon by a chemical irritant, probably produced by the germs in effecting the degenerative process. A vascular zone now surrounds the tubercle and inflammatory changes, more or less marked, occur upon the peripheral tissue. According to the extent of the tubercular lesion, the amount of inflammatory action engendered, and the amount of absorption of noxious substances, we have more or less pronounced general and local symptoms belonging to the now present second stage. At the end of this period a more or less temporary quiescence of the process occurs, the inflammatory action subsides, the newly formed connective tissue cicatrizes, and in favorable cases a permanent arrestment of the disease, by pressure-atrophy and absorption of the degenerated tubercle, may take place. It is not yet known what becomes of the bacilli, which can maintain their vitality outside of the body six months, or even longer : whether by their own products they are destroyed or undergo degenerating changes for want of nutritive pabulum and are absorbed in the course of time, is still a matter of conjecture. Exceptionally the process of the second stage continues unabated, the inflammation leads to softening of the cheesy foci and to destructive suppuration of the tissues with formation of cavity. If permanent arrestment does not follow, the usual period of quiescence after caseation is disturbed by intercurrent conditions which affect the nutrition of the part adversely, reëstablishing the subsided inflammation and constituting a relapse. Such relapses may repeat themselves, each time with more or less extension, by continuity of either the inflammatory or the tubercular process, or both, until finally a permanent arrestment is arrived at, or softening, suppuration and excavation have taken place, these latter constituting the third stage of the disease. (Many such relapses have come to my notice within the last eighteen months, having been induced by epidemic influenza.) Even in the stage of excavation a relative recovery may still occur, according to its size and location and the facility for drainage into a bronchus, but also according to the concomitant condition of the patient and his management, the cavity either continues inflamed, suppurating and extending, frequently leading to the occurrence of pulmonary hæmorrhage, or it may heal by the formation of granulation-tissue and subsequent cicatrization, or when large it may become dry and lined with smooth walls after all tubercular tissue has been discharged.

In the advancing disease extension of the tubercular process occurs :

1st. By continuity before a protecting wall of connective or cicatricial tissue has enclosed the lesion.

2d. By auto-infection through the blood and lymph channels, during the period of softening or detachment of bacilli from the interior of vessels, or by the continued infection from a tubercular focus outside the lungs to which the pulmonary disease is secondary.

3d. By the gravitation and lodgment of bacilli containing secretions within the lungs, and—

4th. By re-infection through inhalation.

These extensions and their subsequent pathological changes produce a variety of symptoms and complications from the slightest to those belonging to general miliary tuberculosis, and their detailed description would extend this paper far beyond its limit.

In referring to the prognosis I may say that a more hopeful view pervades the profession at the present time, perhaps on account of possible specific medication. The prognosis heretofore, especially in the earlier stages, has, however, not been so bad as the public, and perhaps even some of the profession, believed, and I point only to my own results which have been heretofore obtained without specific medication.

In 515 cases reported by me in the *Medical News* of May 13th, 1890, we have 124 recovered and permanently arrested cases—certainly an encouraging number, especially when we consider that in many cases the treatment was prematurely interrupted by the patients who returned to their homes, and that these cases were in all stages of the disease and by no means selected; and it is my opinion that, while we may have a specific for tubercular tissues, none will ever be found which will have the power to also remove the constitutional impairment which we call predisposition, or one which can repair the destructive processes attending the more advanced stages. Apart from specific medication the prognosis is influenced by many other factors, which my article in the *Medical News* considers in detail. I have there shown the influence of age, sex, heredity, the stage of the disease, the condition of the digestive organs, of fever, cough and expectoration, of the heart action, of concomitant disease of the upper air passages, pulmonary hæmorrhage, pleurisy and other complications, and to which I must refer any of my hearers who are more particularly interested.

A great step in diagnosis was made by the discovery of the bacillus of tuberculosis to which I have already referred in speaking of the etiology, and their demonstration in the sputum makes the diagnosis absolute. There are, however, cases in which we can either obtain no expectoration for examination, or the bacilli may be absent for considerable periods and the process be of a tubercular character nevertheless.

In such, when the general and physical examination leaves us uncertain, and we desire to exclude the theory of tuberculosis, we have now in tuberculin an additional diagnostic reagent of the greatest value, so that it must be exceptional indeed for the competent and painstaking physician to remain in doubt as to its existence.

I desire, however, to say a word of warning against the unnecessary employment of tuberculin as a diagnostic agent, which may be fraught with danger to the subject of such an experiment, if he should prove to be tubercular, and I have purposely mentioned it as a means to exclude, rather than to confirm, the tubercular character of a disease, because the doses required for a typical reaction are so large that they are liable to produce an unfavorable effect upon the local tubercular process.

The treatment in view of the recent discovery of tuberculin, which has an undoubted specific effect upon all tubercular tissue, has been and still is, the topic of thought with the entire profession, and has elicited the keenest interest from all mankind.

Without desiring to detract in the least from its value and importance, I shall speak of it later, and mention in the first place the most important of all means for the successful treatment of pulmonary tuberculosis, which is, and ever will be,

"NUTRITION."

By it we do not merely understand the feeding of our patients, but include each and every means at our command which can aid us, directly or indirectly, in strengthening the organism and in supplying it with increased resisting power against the advance of the disease. To check the advance of the disease we must eradicate the predisposition by increased blood-making processes and improved cell nutrition, and preëminently among the means at our command stands

CLIMATE.

Climatic treatment has stood the test for utility from the remotest time, and its rational employment deserves the consideration of every physician who takes the responsibility of advising consumptive patients. Indeed, the time must come when governments will be forced to afford this advantage to those of the poorer classes, who are predisposed to, or are already the unfortunate victims of pulmonary tuberculosis.

The saving and restoring to usefulness of the many lives lost without this advantage, apart from the dictates of humanity, would not only justify the necessary expenditures, but would leave the State decidedly the gainer.

It would make my paper too long to enter into the merits of the different climatic resorts, and the profession of North Carolina need know no other, and can know no better, than that of the beautiful Asheville Plateau in their own State, with its moderate temperature, medium elevation, dry and pure atmosphere, and almost continuous sunshine, where thousands of sufferers from all parts of the Union have been restored, and which is held second to none in the estimation of the profession of our country. Indeed, I found upon my recent trip to Europe, and note frequently in foreign medical literature, that the profession there is by no means ignorant of its great merits.

When I mention such a climate as a means for nutrition, I do so in the appreciation of it as a tonic, as Nature's greatest tonic, to which we may add good water and good food, all of which Asheville affords in the greatest of abundance, and beyond which, I may almost say, there are no tonics, at least none that could be mentioned, in comparison.

The climatic treatment to produce the best results requires, however, the competent supervision of the physician at the climatic resort. I say this with some hesitancy, for fear of being misunderstood in the motive which prompts the utterance, but my experience has shown it to be true, and other and more competent observers who are not practicing at climatic resorts have emphasized this in the strongest language.

Patients who are set adrift on their arrival at climatic resorts rarely consult a physician unless when experiencing some relapse in their condition, and with its subsidence the professional supervision again ceases.

These relapses are, as a rule, due to preventible causes, and depend most frequently upon physical and mental over-exertion, errors in diet, inattention to proper dress, body-hygiene, etc., and in many really curable cases, we get only indifferent results, or they grow worse, in spite of the best climate, by their inattention to the many details in their daily life and conduct.

Out-of-door life must ever be a separate consideration from physical exercise, be that walking, carriage or horse-back riding, or other light employment, of these only that much can be allowed with safety which in the individual case does not produce heart-fatigue. The inhalation of dust and smoke and exposure to strong winds are ever seriously injurious to the consumptive patient, and he must be so circumstanced that he can be out of doors and avoid these injuries.

If a patient is in a state of active disease he requires the management essential for it and the attending fever, and the earlier and prompter our measures are taken under such conditions the less damage will result.

The way to the consumptive's grave is paved with relapses, and their prevention is one of the secrets in the accomplishing of a cure.

No one, who has not been intimately and constantly associated with consumptive patients, can ever fully appreciate how little it takes to arrest the favorable progress of the disease.

Apart from climatic influences and the benefits derived from a constant oversight and proper management of the patient, there are other means, which are useful at the climatic resorts as well as at the patient's home, and which we cannot afford to dispense with, if the best results are to be obtained.

In so serious an affection as pulmonary tuberculosis all our resources are none too many, and the best is never too good.

For the best nutrition we require perfect digestion and assimilation and gastric and intestinal disturbances of any sort must, in the first place, be prevented by proper diet, but if present should have our earnest attention.

Proper care of the skin in the employment of hydropathic applications is essential in health, and more so in a disease where the skin is frequently called upon for vicarious functions.

When physical exercise is greatly limited, or the patient is confined to bed, we cannot afford to do without a certain amount of massage, the rubbing and kneading of the muscles aid in maintaining a good circulation and so favor cell nutrition and elimination of waste products. Electricity may at times find application under such circumstances for the same purposes.

It is not only essential to secure the favorable climate and its pure, dust-free air, but also to provide for free and unobstructed nasal respiration, to which end any obstructive disease of the nasal passages must be removed by proper treatment.

All these and many more subjects must have unremitting attention for the purpose of securing the best nutritive processes, and thereby the eradication of the predisposition and the increase of the resisting power of the tissue cells.

In laryngeal complications, especially when of a tubercular character, proper local treatment is unconditionally required, climate alone will not often arrest them.

For certain indications and in the absence of counter-indications we have in the pneumatic treatment, with perhaps combined inhalations, a means of considerable importance; indeed, some indications cannot be complied with by any other means. While in the past its routine employment has brought some discredit to the method, this is no good reason to prevent its rational use guided by judgment and experience.

We can by this method favor and increase the pulmonary and also the general circulation, thus tending to a better nutrition of the affected lung; we can increase the vital capacity by recovering collapsed air cells and lobules before atrophy and obliteration have occurred; we can favor the expectoration of accumulated secretions, and diminish it by combined inhalations of medicated sprays and vapors, thereby also acting upon the bronchial catarrh locally and most favorably; we can strengthen the respiratory muscles and increase the frequently deficient expiratory force.

As counter-indications we have to bear in mind all active inflammatory processes within the chest.

As a remedy tending towards specific medication even before the discovery of the specific cause, I may mention in particular,

CREASOTE.

In my experience it has done some good apparently as a corrigent in certain digestive complications; I never saw any real or lasting good from large doses which, as a rule, had to be given up on account of injury to the stomach.

Within the last eighteen months I have employed it hypodermically, reaching as much as 2 grammes per day, and I am inclined to the belief that I have seen some benefit from its use. The injections are, however, somewhat painful, and few patients are willing to continue them from one to three times daily for a considerable period of time. So administered it also promptly lowers the temperature several degrees if fever is present. Close watch of its effects upon the kidneys is necessary, especially after a gramme or more per day is given.

The specific medication of greatest interest at this time, however, is the remedy of Professor Koch, now called Tuberculin. Its discovery had in its following several other specific modes of treatment, notably the hypodermic use of cantharidin, with which I have experience only in a single case, the improvement of this patient since its employment is most gratifying, and inclines me to a more extended trial.

Although obliged to Dr. Shurly for the early receipt of his remedies in the form of iodine and chloride of gold, we have as yet had no patient who desired their application.

With the tuberculin I have had over five month's experience in its continued application upon upward of 40 patients.

I have, however, from the beginning, departed from the method of application as witnessed by me in Berlin, by giving it in smaller beginning doses and with slower increase, whereby I hoped to avoid the so-called general reactions and their attending dangers, and believe that I have been the first one in this or any other country who has called the attention of the profession to the now conceded fact that the doses which produce such an effect are not only not necessary for apparently good results, but are positively injurious.

With a few exceptions in my early experience I have been able to so administer the remedy as to avoid all unfavorable complications, and, indeed, without material discomfort to my patients. But in the cases where accidentally general and febrile reactions followed its use, a loss of flesh up to several pounds has almost invariably resulted.

I believe that my experience has demonstrated that, under certain and well defined precautions, the remedy can be applied to the avoidance of all danger—a fact of the utmost importance in the experimental stage of any new remedy.

In a paper read in the Section of Practice and Physiology of the American Medical Association, a few weeks ago, I communicated my results in 25 cases treated for a sufficient length of time to justify at least general conclusions.

I quote from that paper as follows:

“The 25 cases of pulmonary tuberculosis treated with Koch’s remedy are, for convenience, divided into three classes, according to the degree of the local disease, and more particularly the degree of the general health and vigor of the patient.

Class A comprises 5 cases with one or both upper lobes involved, but without destructive change, the general health being still comparatively good. Of these are—

Apparently recovered	3.
Greatly improved	1.
Improved	1.

The greatly improved case had been under treatment only a little over a month, and all symptoms have since subsided

The case reported as “Improved” left the institution after three week’s treatment to pursue it elsewhere, and her prospects seemed very good indeed.

All these patients gained in weight from two to twenty-seven pounds, an average of over nine pounds each.

Class B comprises 7 cases with more extensive disease or moderate destructive processes, which were still in a fair physical condition. Of these are—

Apparently recovered	4.
Greatly improved	2.
Improved	1.

All of these cases bid fair to continue in their improvement, and in most of the unfinished cases arrestment of their disease seems quite probable to follow further efforts.

Six of these gained in flesh from two to twenty-three pounds, with an average of nine pounds each, there being no change in weight in one case.

Class C comprises thirteen cases far advanced in local disease, with considerable constitutional impairment, but still in a condition that there were reasonable hopes for improvement. Of these are—

Greatly improved	4.
Improved	6.
Slightly improved.	1.
Not improved	2.

The cases "Not improved" and the "Slightly improved" case have been put upon other methods of treatment, after what I considered a fair trial of the Koch method, the slightly improved case has made good progress since, and is the one now upon the treatment with cantharidin.

Nine of these patients gained from one to twelve and one-half pounds, an average of six pounds each.

Three cases neither lost nor gained, another lost nine pounds and regained four pounds, being deficient five pounds, but is now gaining. Among these cases are six who suffered also from tubercular laryngitis, three of which presented moderate circumscribed infiltration, two have entirely recovered in the sense that the larynx appears normal, the voice is good, there are no subjective symptoms, and no further local reactions occur to comparatively large doses of the lymph.

Another case is rapidly improving.

The remaining three cases all far advanced, both in the pulmonary and laryngeal disease, are those in which the method was discontinued, no material improvement having been obtained."

These results must be considered as highly satisfactory, and since that paper was prepared the improvement in the reported, as well as in more recent cases not included in my report, has been equally good.

It is of course impossible for me to say how, or if, these results would have been changed had the Koch remedy been omitted, or how much of a share is attributable to it, but I feel justified in stating that it is my impression they were more prompt and uniform, and, on the whole, better, than I have heretofore been able to obtain under the same climatic conditions and general management.

A number of cases under treatment at the same time in my institution, which did not receive the new remedy, have not done so well.

I find it rather difficult to administer the remedy to the avoidance of general and febrile reactions, and at the same time to gradually increase the doses. If the doses really need to be increased, as seems probable, and as I have done, the treatment involves an amount of supervision and professional attention which must seriously limit the use of the tuberculin in private practice. There is no fixed time when the local reactions occur, and while, as a rule, we find them in from six to ten hours, they may occur sooner or later, and last from so short a time as half an hour to twenty-four, or even forty-eight hours.

No repetition of dose or increase in quantity is permissible when a reaction has occurred, or while it continues. Any undue continuance is an indication that the next dose must again be taken smaller in amount, and it has become my rule never to increase a dose until the last two doses, of the same quantity, shall have been apparently inoperative, since I have found that the effect of a subsequent dose of a like quantity may exceed that of the preceding dose. To proceed under such precautions intelligently the physical examinations of the patient have to be very frequent indeed, and he has to be seen every few hours after an injection until the local reaction has passed off. I have been obliged to make a number of examinations of the chest in a patient upon the same day to demonstrate a local effect.

In comparing my results with those of others who have also used the remedy, it must not be forgotten that I employed the remedy to the avoidance of general reactions, that the patients were all in a special institution and under such constant and painstaking observation that the occurrence of a general reaction could not well have escaped me. Further, that it has been conceded by those who have most experience with the remedy that these general reactions are not only not necessary, but are frequently seriously injurious, and that the reports from Germany, where, since about the early part of March, the dosage has become much more conservative, are growing much better.

On the other hand, we would expect better results under its employment in a special institution, in connection with climate with every advantage that could be brought to bear upon the favorable progress of the individual case, conditions which Professor Koch himself recommended as most desirable for the best results. Further, it should be remembered that more than half of my cases were far advanced in disease, and that even in these remarkable and continuous improvement in all but three has resulted, and entire arrestment is now manifest in several of these advanced patients, having continued so for over two months, all being cases in which we were first told the remedy would be dangerous and harmful.

Neither should the remedy be doubted because under a wrong method of administration some physicians or institutions have of late been said to have reported adversely and to have given it up as too dangerous or harmful.

The wonder to me is that they required so long a time for this conclusion, not only in America, but also in the country of its introduction.

As to the action of the remedy upon tubercular tissue, I can confirm the recorded observations of other experimenters, that it produces other narcotic changes *only*, when given to the production of the symptoms which are so well known as "general and febrile reactions."

In my method, by which these symptoms are avoided, this does not occur. I rather believe that the effect of the tuberculin is, then, one of irritation to the periphery of the tubercular lesion, by which an increased amount of blood, and consequently a better nutrition of the fixed tissue cells and wandering cells is induced, the latter being the so-called phagocytes of Metchnikoff, which, on account of the specific irritation, reach its seat in greater numbers, all tending to the destruction and the checking of the advance of the bacilli upon the periphery, and also favoring the formation of connective tissue and the transformation of giant and epithelioid cells into the latter, which, by its subsequent contraction and shrinking, encapsules and causes pressure-atrophy and absorption of the tubercle, and so constitutes a physiological cure. On the other hand, from larger and rapidly increased doses the irritation becomes excessive, inflammation, suppuration and necrosis of the peripheral tissue as well as of the tubercle is produced, and the accompanying symptoms of a general and febrile reaction take place, identical with the symptoms which occur, when we have softening and necrotic processes in the ordinary course of the disease, which we have always and properly endeavored to avoid.

Much time will be required to arrive at a final and correct appreciation of the value of the remedy and of the mode in which its curative effect is brought about. Dr. Loomis, of New York, told me recently that he is just beginning to learn how to use it, and that since he has adopted a more conservative method of dosage his results are growing much more satisfactory. I am at least certain that it is possible for the remedy to be given in increasing doses up to 120 milligrammes, as I have done, without injury and even without material discomfort to the patients, and, although I cannot absolutely demonstrate that it has, or how much it has aided me in my results, I hope and have much confidence that, with growing experience, we will find the tuberculin a most valuable aid in the treatment of this disease, and that Professor Koch has, in this instance, also sustained his reputation heretofore won, namely, that no scientific announcement he ever made has been subsequently disproven In the meanwhile, I believe it to be an important step toward its clinical understanding to have demonstrated a mode of administration which has at least the advantage of doing no harm, and under which we find the patients steadily improving, even those in the far advanced stage.

From private advices I am also justified in stating that a radical improvement in the tuberculin by the removal from it of certain noxious principles may be looked for in the near future.

Finally, I desire to say a word on the subject of Prophylaxis, which is, after all, still the true remedy by which we must endeavor to restrict and overcome this scourge which infects the civilized world. Besides wise legislation, which the profession should strive to bring about, we can do much in educating the directly interested patients, their friends and attendants in its prevention. On our part an early diagnosis, if possible, even before expectoration has occurred, is absolutely essential, and there should be no license to practice granted to any physician who is not fully competent to diagnose the disease in its early stages.

If, then, we earnestly see to the proper disposition of the bacilli-containing secretions, so that the germs will be destroyed and prevented from infecting predisposed subjects, if we will give proper attention to the candidates for consumption—the subjects of a predisposition—and endeavor to eradicate their tendency to the disease by the increasing of their nutrition and resisting powers through the employment of climate and other means at our command, then, and then only, will we, concerning this disease, have fulfilled our duty and complied with our mission as true physicians and as guardians of the public health.

May the profession of North Carolina always stand first and foremost in the recognition of the old but true saying, which applies in pulmonary tuberculosis, if anywhere, that

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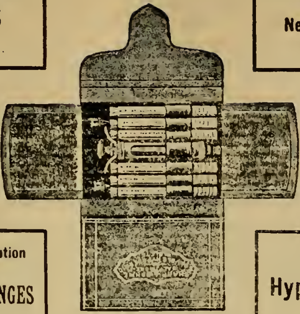

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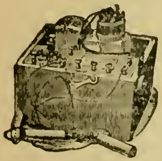

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THORACIC SURGERY.

By H. LONGSTREET TAYLOR, A.M., M.D., Asheville, N. C.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

The surgical treatment of suppurating cavities within the lung itself promises to become a recognized surgical procedure. For some time large abscesses have been incised and drained, especially when a history of a foreign body having entered the air-passages has preceded the formation of the cavity. In England a tooth was thus removed from a large abscess and the patient recovered. Recently a case was reported to the St. Petersburg Medical Society of the successful treatment by scraping and packing of an actinomycotic abscess, situated in the lung. Sonenberg's work in Berlin on tubercular cavities is the latest departure and his ultimate conclusions will be of great value.

Empyema is a surgical disease. It may be on this account that physicians so often fail to make the proper diagnosis. Just as the abdominal surgeons have been teaching the profession to recognize the symptoms of pus in the pelvis, and have by bold operations saved thousands of lives, just so must the thoracic surgeon teach the profession to recognize the symptoms of pus in the thorax, and must be prepared to follow up his diagnosis by locating and evacuating the pus.

For some reason the presence of pus in the thorax is overlooked in a great number of cases. The small needle of the hypodermic syringe is a fruitful source of error, for when it is thrust in and nothing is found, it is too often accepted as satisfactory evidence that pus is absent.

In the first place, the caliber of the needle is too small to allow thick pus to pass into it, and in the second, the needle is frequently too short to pass through the thoracic parietes and the thickened pleura beneath. The hypodermic needle must not be relied upon to settle such an important question, and the explorative puncture must be made one in every sense of the word.

Fraentzel bases the diagnosis of empyema on high fever, becoming hectic after from two to five weeks, pain on pressure, and constant pain and œdema of the affected side. The physical signs of an effusion are readily recognized in simple pleuritis, but are unreliable in old cases of empyema. This conclusion is justified by the reports of late operations upon hitherto unrecognized cases of empyema that had gone on from bad to worse for months. These reports can be found in the literature of all civilized countries. The explanation of the unsatisfactory character of physical examinations of old cases of empyema must lie in the altered conditions of pleura and ribs and the frequent presence of air or gas in the cavity. The costal pleura is at times over an inch thick, the intercostal spaces are gone, the ribs overlapping each other like shingles on a roof. Amphoric phenomena of all kinds can be heard, which change often from day to day Thus it happens that tuberculosis is supposed to be present, that a large cavity in an otherwise infiltrated lung is diagnosed, or when no gas is present fibroid phthisis is declared to exist

Now, if the attention of the attendant could be fixed upon the character of the fever, and if he would observe its hectic character, distinctly different from the curve of an ordinary case of tuberculosis; if he would observe that occasionally for a longer or shorter period the patient would apparently improve, be free from fever and have little or no pain, only when a new absorption of pus occurred to return suddenly to his former state.

It may require some credulity to believe, but it is nevertheless true, that a patient with an external fistula, that had at times discharged large quantities of pus, should have been sent to Asheville by his physicians to recuperate from a severe attack of pneumonia. At my first examination I diagnosed pyo-pneumo-thorax. The diagnosis was confirmed by Drs. von Ruck and Meriwether and substantiated by an operation, fully two quarts of stinking pus being found.

Another case that had traveled to Denver and thence to the sea-shore, and finally reached Asheville, which I saw in consultation, presented the history of repeated attacks of hectic fever, with periods of comparative comfort and entire immunity from fever. Also an interesting variety of diagnosis, comprising every possible pathological condition. A free opening could not be made on account of the objections of the patient and the family, but a tube was introduced through which a small quantity of pus escaped.

The tube was removed in a very short time during my absence, but months later a radical operation was made at the patient's home and a large abscess cavity disclosed. Had it been done in this pure and tonic atmosphere, at a time when the patient still had the necessary strength, the fatal result might have been averted.

Such examples are sufficient to awaken some interest in this subject, and to cause those wanting in the so-called surgical instinct to study the symptoms of pus in cavities. If its presence is suspected its location is not extremely difficult.

The treatment consists in evacuating the pus, and in old cases of empyema in removing sections from as many ribs as may be necessary to allow the side to sink in against the lung, and thus obliterate the cavity. This must be done when the pleura is so thickened and the adhesions so firm that the lung cannot expand, nor can the diaphragm ascend high enough to close the cavity, which can only be accomplished by removing a section from the chest wall. Boeckel, of Strassburg, made the most extensive operation of this nature on record. He not only resected freely from all accessible ribs, but also removed nearly all of the scapula below the spine. His patient made a complete and permanent recovery.

In the most recent cases and in children syphon drainage is the best method of treatment. Intelligent and constant nursing is the most important element of success, as the free end of the drainage-tube must be continuously immersed. To insert it a large-sized trocar and canula and a long piece of stiff drainage tubing is all that is necessary. The drainage-tube must fit accurately in the canula. The trocar and canula are plunged into the cavity, in the axillary region by preference, the trocar withdrawn and the tube introduced through the canula, which is then also withdrawn, leaving the tube in the cavity, where it is firmly held by the pressure of the soft parts. A large-mouthed bottle, containing a solution of bichloride of mercury is used in which to immerse the free end of the tube. Thus the pressure of the atmosphere is kept away from the cavity. The pressure in the cavity after a few inspirations becomes slightly negative, all fluids are slowly aspirated, and in a very short space of time the cavity is closed. The cavity should not be washed out if the pus is not offensive. If it is desired to flush out the cavity, the bottle is filled with the solution to be used and elevated above the thorax; when the fluid has nearly all run into the thorax it is lowered and allowed to flow back. Whenever the bottle is to be emptied the tube must be securely closed with a good clamp.

In the per-oxide of hydrogen we have a most excellent disinfectant and cleanser. Small quantities of it should be thrown into the cavity, and this repeated until it comes out without foaming Iodine water is another reliable agent.

The aspirator should seldom be used to empty the thorax. When a serous effusion becomes dangerous on account of its volume, then an aspirator, that has been thoroughly cleansed, in the surgical sense, is allowable. So many serous effusions become infected from the hollow needle that the aspirator is one of the most frequent causes of empyema. To remove a purulent effusion with an aspirator is bad practice.

To recapitulate—a collection of pus, whether in the lung or in the pleural cavity, should be drained. In recent cases syphon drainage promises the best results with the least possible deformity. In old neglected cases Estlaender's operation is indicated.

THE Mississippi Valley Medical Association will hold its seventeenth annual session at St. Louis, Wednesday, Thursday and Friday, October 14th, 15th and 16th, 1891. Reduced rates and an excellent programme will bring out a large attendance. The medical profession is respectfully invited to attend. The officers are as follows: C. H. Hughes, M. D., 500 North Jefferson Avenue, St. Louis; E. S. McKer, M.D., Secretary, 57 West 7th Street, Cincinnati, Ohio; T. N. Love, M.D., Chairman Committee of Arrangements, 501 North Grand Avenue, St. Louis, Mo.

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EDITORIAL.

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THE CLINICAL EXAMINATION TO BE INSTITUTED BY THE STATE BOARD OF EXAMINERS.

In his Message to the Medical Society at the late meeting in Asheville, the President, Dr. R. H. Lewis, among other wise suggestions, urged upon the Board of Medical Examiners to add to the good work they already were doing a clinical examination to be conducted on plans to be formulated by the Board. In order that graduates in Medicine applying for license should not be handicapped by the immediate introduction of this new feature the Board, in adopting this suggestion, very wisely deferred putting this departure from the older methods into operation until 1893, thus allowing two years' notice to schools sending out graduates, and the graduates themselves, of this requirement for license. It is probable that among other rules governing this clinical work will be one requiring each applicant to present to the Board, when he registers for the general examination, a certificate from the medical school from which he graduated, that he has had clinical instruction of a more complete and satisfactory character than is accorded by clinical lectures only. He must have had opportunity to examine patients and diagnose their diseases and prescribe for them, and he must know how to apply splints and bandages, as well as give the diagnoses of fractures and dislocations, and be able to give a reason for the treatment he adopts.

This is no hardship that the Board is mapping out for future classes. For it is a well-known fact that there is need, and urgent need, for such instructions in the education of physicians and surgeons as these new examinations will elicit, and it will secure for North Carolina the point she has long and honorably held—the earnest and determined lead in promoting and upholding the highest possible standard of medical education. This novelty in the work of examining boards of the States is only in line with the methods adopted by similar boards who examine applicants for the Army, Navy and Marine Hospital Service, and there is no good reason why men offering for practice in this Commonwealth should not be as well equipped in learning as those who pass successfully the ordeals of the examiners for the different medical services of the Government. We congratulate Dr. Lewis upon his wise suggestion, and the Board of Examiners upon its adoption. We shall await the full report from the Committee appointed by the Board to put this work in shape and reserve further comment until their regulations are published.

POST-MORTEM KNOWLEDGE OF OUR CASES.

In a paper read by J G. Carpenter, M.D., before the Kentucky Medical Society entitled "Lessons Taught by a Post-Mortem Examination," we get another practical lesson which is revealed by examination in the dead-house. It was the case of a negress who had had spells of "colic" from time to time, and had had treatment of a palliative character only. She died suddenly and a post-mortem was ordered by the county judge. There was revealed, upon opening the abdominal cavity, a large abscess, discharging a quart or more of offensive pus, and the tube and ovary were disintegrated. There was general peritonitis, "the colon was perforated, and the most extensive and intimate union by adhesion existed between the ascending colon and uterus and wall of the right fallopian tube." The abscess had its origin in a gonorrheal pus tube. Dr. Carpenter remarks, in making up his deductions of the case, that "the aseptic hand, knife, drainage-tube and irrigation would have saved a life now lost."

This lesson will recall what we have tried, from time to time in our pages, to impress upon the profession that all of us need to go to school in the dead-house. It is the place where medical conceits are driven from the brains of over-confident doctors, and where the seeker after truth will always be edified. The obstacles to most physicians in this State to pursuing post-mortem studies is the reluctance of the patient's friends to allow them, and the lack of suitable places to make such examinations in our smaller towns. these obstacles are not insuperable, and if the profession in the State will take the matter seriously to heart, they can make the way.

The first thing to be observed is to keep the matter of such examinations profoundly secret, or at any rate allow no prying eyes of idlers and newspaper men about the premises. It is the lack of nice professional decorum that in many villages causes the examination to begin and end with a single case.

The second thing is for the doctor himself to be prepared to make an intelligent autopsy. Let him have a good, serviceable set of instruments, a good light, and take his time at the work.

The next thing is to thoroughly prepare himself by refreshing his knowledge of post-mortem appearances and the details of the dissections; for this purpose he will consult many good hand books suitable to take into the dead-house. One of these publications was prepared by the North Carolina Board of Health for the instruction of Superintendents of Health, they being the legal physicians in medico legal examinations for their counties, and a copy of it may be obtained free of cost to any of our readers. There is also another very good work published by "The Illustrated Medical Journal Company," Detroit, reviewed in this JOURNAL some months ago.

Dislike of post-mortem examinations comes largely from their perfunctory performance, but thorough work begets a spirit of research. At the Marine Hospital in Wilmington these examinations are conducted in a way to interest and instruct the profession, and the Surgeon in charge always sends out invitations to the local faculty. At the Wilmington City Hospital these examinations are not as numerous as they will be after the prejudices of the negroes are overcome, but in both institutions the oldest practitioners get the most good out of the lessons revealed.

We repeat, then, that with decorum and secrecy thorough preparation on the part of the operator as to instruments and properly lighted room, post-mortem work can be done at the County Poor Houses and Hospitals, and that it will grow in favor just in proportion to the proper preparations for it.

WHAT BECOMES OF DOCTORS AFTER GRADUATION?

A correspondent of the *Medical Age* says: "I have endeavored to keep track of 100 of my medical friends after graduation, especially of what they did during the first five years, and find nearly 75 per cent. had to resort to other employment to make a living. Twenty-three received a salary either in addition to practice or separate therefrom. Fifteen were proprietors of drug stores. Three were insurance agents. Four loaned money. One sold real estate. Three were connected with medical journals. One was an agent for drugs. One for books. One preached. One was in the patent medicine business. Two were farmers. One a manufacturer. Two gave massage treatment. One sawed wood, and subsequently suicided. Twelve gave up in disgust, and one never tried practice at all. Twenty-nine graduates only in 100 exclusively devoted themselves to medicine, and of these 11 associated themselves with other practitioners, and in many cases fell heir to their practice."

The senior editor recalls of the 15 students who began their medical career with him as follows: One never completed his education, was killed in the trenches before Petersburg. One became a Confederate surgeon after failing in his examination as Assistant Surgeon, and died with abscess of the liver in a Richmond Hospital. Two failed in their medical college examinations, and of these one took up the practice of homeopathy and quit it for engineering; the other died from an injury received by a fall from his horse during the war. Two largely divided their career between farming and practice, with a large preponderance of attention to the former occupation. One, never having attained to his degree, died of yellow fever in 1862. One abandoned the profession for truck farming. One came to an untimely end, being killed by mistake in the twilight for some one else. One, failing to get a medical appointment, became an efficient artillery captain, and ended his career as a druggist. Another, after practising medicine, went into the army at the outbreak of the war, became a captain of artillery in Morgan's command, but after the war did not resume his profession. The career of the twelfth one is not remembered, but the remaining three have always devoted their time to the practice of medicine.

What a strong temptation comes just here to moralize, but it is not for the writer to cast the first stone, or to draw inferences about the survival of those who devoted themselves exclusively to the object of their first love.

Penning these reminiscent thoughts brings to mind an illustrative incident of the war. Two of the young men above mentioned volunteered as privates in infantry companies in the same regiment. It happened, on the occasion in mind, that one of them was down in the trenches spading sand in the course of his regular detail, and the other was off duty, playfully watching his toiling comrade, when the following conversation ensued :

G.—" Isn't this fine business for a doctor and gentleman " ?

F.—" Doctor and gentleman, indeed, why you don't rank as a horse. A horse gets $12 a month and you only get $11."

The Confederacy didn't furnish horses, but gave their owners $12 a month for their use.

REVIEWS AND BOOK NOTICES.

INTERNATIONAL CLINICS: A Quarterly of Clinical Lectures on Medicine, Surgery, Gynecology, Pediatrics, Neurology, Dermatology, Laryngology, Ophthalmology and Otology, by Professors and Lecturers in the Leading Medical Colleges of the United States, Great Britain and Canada. Edited by John M. Keating, M.D., J. P. Crozer Griffith, M.D, J. Mitchell Bruce, M.D., F.R.C.P, David W. F. Ferilay, M.D., F.R.C.P. April, 1891. Philadelphia: T. B. Lippincott Company, 1891.

The key-note of the prospectus of this undertaking is caught in the first sentence of the preface: "It is proposed to make this periodical a complete post-graduate course of medical instruction." This volume, the first installment of the purpose of the work, is wisely edited by the selection of some of the very cream of the clinical lectures from the class room of English, American, Scotch and Canadian hospitals. The reader will not expect these lectures to be of uniform quality or interest this is impossible, but those who are ripe enough in clinical knowledge will go through this volume with pleasure and profit. The young man who depends on "compends" might by steadily reading such a volume change the complexion of his mind, and learn to think some for himself, and those who are contemplating the reports of cases might consult them for style and method of arrangement.

Some of the contributions and contributors to this volume are: Acromegaly, by James Ross, M.D., LL.D., F R.S.; Polyœmia or Plethora in its Relation to Inflammation and the Treatment of Pathological Processes in General, by William Henry Porter, M D.; Angina Ludovici in its Relation to Diphtheria, by Jas. Finlayson, M.D.; Sore Throat, by Christopher Heath, F.R.C.S.; The Treatment of Cough in Phthisis, J. Mitchell Bruce, A.M., M.D.; Pneumonia; Cirrhotic Kidney and Liver; Fibroid Degeneration of the Heart, by Alfred L. Loomis, M.D.; Hydrothorax (Pythorax?) with Dexiocardia, by W. T. Gairdner, M.D., LL.D.; A Case of Enlarged Liver with Jaundice, by Richard Lea MacDonnell, B.A., M.D.; Modern Methods in Surgical Operations, by W. W. Keen, A.M., M.D.; Ulcers, by D. W. Cheever, M.D.; The Early Diagnosis of

Pregnancy, by Matthew D. Mann, A.M., M.D.; Cancer of the Vagina, by William Goodell, A.M., M.D.; The Remote Effects of Traumatisms as Seen by the Neurologists, by H. C. Wood, M.D., LL.D.; The Treatment of Obstinate Sciatic Pain by Splint-Rest and Cold, by S. Weir Mitchell, M.D., LL.D.; Astigmatism: A very Common and often Unrecognized Cause of Headache, by Julian J. Chisolm, M.D ; Psoriasis, by Geo. Henry Fox, M.D.

Such illustrations as are introduced really aid the text, especially the well-defined photographs of psoriasis.

The Pocket Materia Medica and Therapeutics: A Résumé of the Action and Doses of all Officinal and non-Officinal Drugs now in Common Use. By C. Henri Leonard, A.M., M.D. The Illustrated Medical Journal Company, Detroit, Mich., 1891. 300 pp., small 8vo.

This is a condensed compilation of all the articles in use, articles little used, articles never used, respectable members of the Pharmacopœia (U. S.), and the proprietary articles in favor with the profession, arranged alphabetically for the convenient use of physician or student. The author has shown his usual great skill in condensing, and making use of all available space, to making each page tell in the number of items, and at the same time making the subject matter easily comprehended.

Will the making of such books never end? Are we to have compends and abstracts, reducing all scientific knowledge to answers of just such length as to pass with the quiz-master or the medical examiner? If we are, then this book easily takes its place with all such.

We missed Oleum Terebinthinæ from his list, but found Stylosanthes. We missed Arsenite of Copper, but found Ingluvin, but it would be difficult to call for any other item of any sort of lay or professional reputation that had escaped the keen eye of the author.

Per-oxide of Hydrogen must always be acid if it is expected to be kept long. Usually a little sulphuric or hydrochloric acids are added to the per-oxide solution,

HOW ONE MAY BE HELPED WHO REALLY WANTS TO WRITE FOR THE MEDICAL JOURNALS IN AN INTELLIGENT AND INSTRUCTIVE MANNER

Dr. Bayard Holmes, in the *North American Practitioner*, of Chicago (June. 1891), has contributed an article which is the substance of a lecture delivered to a medical class of the Chicago post-graduate medical school, the substance of which is contained in the above caption. We commend the article to every young physician in the State, as it applies to those who do not as well as well as to those who do, write for the JOURNAL.

We quote one paragraph :

"There is an erroneous notion prevailing that original investigation is necessary to the production of any valuable medical literature. This is a great mistake Clinical investigation is not an over-worked field. Especially is this the case in what might be termed private practice, and notably country practice. There is, however, much experimental work which can be best done in the country, and the use of crippled or condemned animals should be secured for our science."

Our friends in the country who work out courageously some of the most difficult problems of medicine without professional assistance, and, with a very slim armamentarium, should read this, and be determined to give us from their hard earned experience such material as they have gathered.

Here again :

"If you study your subject exhaustively you will not need much advice in putting together your argument. It must be done to convince. You must not tire your readers, therefore you must express yourself clearly, sharply and tersely. The harder, as a rule, it is for you to write, the easier it will be for your readers to read. Almost every good article is a condensation, or a brief, of an extended argument. * * * There are many physicians who never read anything but an abstract. You cannot hope to influence such men. You need not write for them They call the journals stuff, and all who write, upstarts. Their mental man can endure nothing but a liquid diet, or, at most, an occasional rehash. Their opinions are borne out, not by reason, but by fashion. * * * Don't write with the expectation that it will advance your popularity with your patients Such an object is unworthy, and will not augur good work. Your object is your own culture and the instruction of the profession."

CURRENT LITERATURE.

ELIMINATION AND ITS USES IN PREVENTING AND CURING DISEASE.

The above was the title of the Cavendish Lecture, delivered June 12th, by Dr. T. Lauder Brunton. Particular emphasis was placed on the importance of free elimination by the bowels. Not only the brain, but the heart, lungs, liver, stomach and kidneys have their functions impaired when the bowels cease to do their duty. Napoleon's disaster at the battle of Leipzig is popularly set down to his having eaten a bun in a hurry, and so brought on dyspepsia; but it would be a very curious page of history if we could learn how many wars, how much bloodshed, and how much cruelty have had their origin in imperfect action of the bowels. Washington Irving, in his "Lives of the Caliphs," tells of a certain emir named Al Hejagi, who suffered for many years from dyspepsia and abdominal pains, and this wretched man distinguished himself, perhaps above all other rulers who ever lived, in the enormous number of people whom he sentenced to imprisonment and death. He is said to have caused the death of no less than 120,000 persons besides those who fell in battle, and to have left 50,000 in prison when he died hmiself. How much of all this misery might have been averted by the judicious use of mild aperients, it is as impossible for any one now to tell, as it is to estimate the debt of gratitude which Europe owes to the physician of Louis XIV for the care he took of the bowels of that august monarch.

In mitral disease and in dropsy, either cardiac or renal, the benefit derived from the free use of the compound jalap powder is very great; and in his work on "Purgative Medicines," Dr. Hamilton describes most forcibly the advantages he obtained from purgatives employed in such a way as merely to clear the bowels, not to produce violent purging, in typhus fever, malaria, scarlet fever, hysteria, chorea and tetanus.

Most persons can regulate their bowels by exercise and diet, but these sometimes fail, and we must have recourse to so-called aperients. The dinner-pill supplies a very useful stimulus, and Dr.

Brunton knows a man who has taken one every day of his life for forty years, apparently with great benefit to himself. But there are some people who do not seem to thrive on dinner-pills, and they either do not get any action at all, or they get too much. In such cases, instead of giving the intestines one great push once a day by the dinner-pill, one may give them a series of gentle jogs by adding to each meal a minute quantity of a purgative; and Dr. Brunton has found that one-tenth of a grain of aloin given with each meal sometimes succeeds when other means fail, and even these minute doses sometimes seem to be too much.

But many persons, besides the dinner-pill, require a weekly clear-out; and if this be not given to them by means of a cholagogue purgative, they have a regular sweep-out once a month by getting a violent migraine with bilious vomiting; and generally they are obliged to fast for at least one day during the continuance of the headache. The effect of a cholagogue purgative such as a mild mercurial, followed by some saline, is sometimes very remarkable. Dr. Brunton has seen a quarter of a grain of calomel, with a Seidlitz powder next morning, surprisingly change the temper of a sulky boy or girl; and he has more than once taken the "naughtiness" out of a peevish child by a dose of Gregory powder, which, being nasty to the taste, has both a moral effect and a physical action.

Not infrequently adults suffer from nerovous irritability, depression, weakness and inability to do anything; and this is often put down to neurasthenia and hypochondriasis. They are treated with nervine tonics and sedatives, change of scene, baths, etc., to little purpose; nervous and depressed they still remain. In some of these cases we may notice a large amount of mucus in the motions, and sometimes there appear to be actual casts of the intestines, long membranous-looking shreds, apparently tubular in their character. This condition has been described by Dr. James Simpson, under the name of "membranous enteritis"; and it is not only usually said to be associated with hypochondriasis, but often it is looked upon as a consequence rather than the cause of the nervous condition which is its usual concomitant. But it is no use here to treat the nerves. If you wish for any good result, you must treat the bowels. In some, probably many cases, conditions depends upon partial constriction of the intestine near the junction of the sigmoid flexure with the rectum. The motions, lodging here, cause an inflammatory condition of the mucous-membrane and profuse secretion of mucus, which either simply coats the fæcal matters, or forms a kind of false membrane In adults, prolapse of the sigmoid flexure into the rectum may give rise to great nervous disturbance lasting for years, unless its existence be suspected and the proper treatment adopted. One useful remedy is the injection of two to four ounces of cold water immediately after a motion. This is to be retained, and has the tonic effect of a cold bath on the intestine, increasing the contractile power and lessening the tendency to prolapse. In all cases of this kind the regular use of suitable laxatives should be enjoined.

Dr. Brunton, in the same lecture, urges the importance of maintaining a healthy state of the renal function, and speaks of the benefit in gouty and rheumatic cases, and in bilious colic, of making patients drink a big tumbler of water, and especially hot water, every morning, with or without some Carlsbad salts added to it, and, if necessary, repeating the hot water once or twice in the day.—*Boston Medical and Surgical Journal.*

THE SIN OF DRUNKENNESS.

We have heard a great deal about the disease of inebriety, and of how absurd and unscientific it is to consider an obstinate tendency to drunkenness a vice. It is interesting, therefore, to hear a declaration regarding the other side from Mr. Charles A. Bunting (*The Independent*, June 11, 1891). Mr. Bunting says:

"Drunkenness is not a disease; it is not hereditary, but a sin. This is shown by two-thirds of all who come to our Home. One-half and more neither had intemperate parents nor grandparents. Association was the cause in two-thirds of all the cases we have had, showing conclusively that it is a habit acquired. In 1,290 instances the habit was acquired after coming of age and leaving the domestic fireside. If drunkenness is hereditary why is it that in 99 cases out of a 100 the boys catch the "disease" while the boys do not? A strong argument against the hereditary theory is a statement made to me by the Superintendent of the Home for

Little Wanderers, in Boston. He says that out of 5,700 children, more than half of whom were boys, he could recall but one boy who had become a drunkard. When we consider that the great majority of these little waifs are the offspring of drinking parents, and, in many instances, the children of parents both of whom are common drunkards, does it not seem strange (if drunkenness is hereditary) that out of such a large number there is not more than one instance of its transmission shown in the nearest offspring, without having to await its development in the grandchild or the great-grandchild?

"Nothing but God can meet the needs of the drunkard No medicine can eradicate the cravings of the victim of alcoholic beverages. It is not a disease, and Christ can and will destroy all desire for intoxicants, if the sufferer will apply to him for aid. Hundreds who have tried all other remedies and plans have found in our Home that the Great Physician can cure the sin-sick soul."

These views will no doubt meet strong opposition in many quarters; yet to a certain extent they are in harmony with common-sense and practical experience.

Many inebriates were undoubtedly made so by gradually increasing indulgence in alcoholic liquors. Their systems became disordered to such an extent that self-control was lost and a morbid craving produced. Powerful mental influences which stimulate the will and help one to self-control will often effect a cure of these cases. The cause is social or psychical; the cure is psychical; hence it is not unnatural that many persons should call drunkenness a moral disorder rather than a physical one.—*Medical Record.*

SCARIFYING THE LEGS IN DROPSY.—A writer in an English medical journal, recently, advocating the effects of scarification in general dropsy, reminds one of the rural device of whipping the legs with branches of holly (Ilenopaca) bushes, the thorny leaves penetrating the kin and causing practical relief, by the minute trickling away of serum at numerous points of puncture. Saw-filings and vinegar and quinine were the other rational adjuncts to this device, and in the dropsies of children in malarial districts the principle has not been much improved since that day.

CURRENT NOTES.

Asthma Treated by Peroxide of Hydrogen.—Dr. Chisholm, of Ohio (*Columbus Medical Journal*), used peroxide of hydrogen in a muriate of ammonia inhaler. He advises, in conjunction, the use of strong coffee.

Dr. H. P. C. Wilson's portrait appears in the *American Doctor*, a newspaper published in Richmond. We wish the portrait were better, but we accept it as of one of the most substantial and reputable physicians in his specialty in the country, and will wait for a better one.

Antipyrin is comparatively safer in children, in proper doses, than in adults because of the rapidity of its elimination. Seven and a half grains given to a child is eliminated in from fifteen to twenty hours, in an adult, from 24 to 30 hours.—*University Medical Magazine.*

Cocaine is chemically incompatible with the salts of mercury. If a trace of cocaine hydrochlorate be mixed by means of a dry glass rod with a very minute quantity of calomel, and the mixture be breathed upon, the moisture that condenses is sufficient to cause it to blacken immediately.—*Medical Chornicle.*

To Detect Phthisis in the Lungs Chemically.—Sticker says that iodide of potassium in small quantities to a healthy person produces no changes in the lungs the ear can detect [to be proven]; but in persons with the earliest manifestations of phthisis where the signs are negative, dosage with iodide in small quantities developes the diagnostic râles.

Composition of the Seven Barks as Given by "Good Health."—Extract of hydrangea, extract of poke root, extract of dandelion, extract of lady's slipper, extract of colocynth, extract of blood root, extract of blue of flag, extract of stone root, extract of golden seal, extract of mandrake, extract of black cohosh, extract of butternut, spirits of sea salt, aloes, borax, infusion of capsicum powder, sassafras, ginger, sugar-house syrup and water. It would be wonderful if a load of mustard-seed shot discharged into a flock of sparrows did not kill or wound some.

In giving nutrient enemata of eggs, 15 grains of common salt should be added to each egg.—*Medical Chronicle.*

Pure Chloroform by Freezing at a Very Low Temperature.—M. Pictet claims that a perfectly pure chloroform can be made by freezing.

The Disposal of Sewage in the Confederate Trenches at Petersburg.—A young holiday soldier who had been enquring into the conveniences for the soldiers during the war, from an old Confederate, put some puzzling questions, and among others got this reply: "It was pretty hot sometimes on our part of the line, close shooting day and night, but fortunately the question of 'going to the rear' settled itself by the character of our food. We had only to step a little aside, there was a gust of wind, a cloud of meal husks; a flock of sparrows served as the sanitary agents, and we crawled back into our places in line, with the slightest readjustment of our nether garments.

Mesmer's Famous Tub.—The *Medical Abstract* has reprinted an old cut which gives the picture of one of Mesmer's séances around his wooden tub. Younger readers will not recall the story of the furore that surrounded the practice of mesmerism as carried on by the founder of the "science." His séances got to be so numerously attended that, in order to accommodate this large circle, he devised the plan of having a tub from which those who came to consult him could draw the magic influence of mesmerism, and to those who, more refractory and who did not yield to the current they got from this wonderful store-house, he applied his magic wand. This picture shows a circle of high dames and big-nigs, mediums, who are either lending their aid, or who have come for the fashionable dosage of the occult currents. One gouty individual is seen holding his inflamed foot to the tub to put it in reach of the healing influence. Benjamin Franklin was then minister to France from the Colonies, and, as a member of the Academy chosen to look into the grand discovery, he with the others reported adversely. All this near the year 1779. The world has revolved regularly since that day, and now we have hynotism, but no Academy to say adverse things, and so we go on discovering.

Pressing a finger on the upper lip will abort a sneeze if thought of in time.—*Pacific Record.*

Electrocution is the word coined to express legal death by electricity. Science so-called has invaded every domain, and now comes in to take the shame out of the legal death penalty. Is it science, though? and does not this innovation defeat the intent of criminal death punishment?

Dr. Frank Hamilton Potter, of Buffalo, died on the 16th instant, as we learn from the *New York Medical Journal.* He was the son of Dr. William Warren Porter, editor of the *Buffalo Medical Journal*, and was associated with his father in the editorship of that journal. Dr. Potter has our profound sympathy in his affliction.

Dr. John H. Rauch, Secretary of the Illinois State Board of Health, known to the medical profession and sanitary workers throughout the world by his remarkable and efficient services in pioneer duty as well as in the substantial foundations of the more enduring kind, has resigned his position. We have heard rumors of this before, and would like to believe that this time it is not so. Our information is from the *Medical Record.*

The Intemperate Temperance of the Medical Temperance Congress which met at Prohibition Park, Staten Island, July 15th and 16th, judged by the speech of Dr. Charles G. Davis, will damage a movement which is intended to be reformatory. Many good men give study, energy, sympathy, prayers to abating the evils of drunkenness, and it is a pity that their associates should put them in the attitude of using untruth as a weapon against the great evil.

Pre-Columbian Syphilis in America is the title of an interesting investigation of the question of syphilis among the prehistoric races of America, by Dr. James Nevins Hyde. It is illustrated with phototypes of specimens of bones from various sources. From his study Dr. Hyde in part concludes "it is not difficult to conclude that positive proof of the prevalence of syphilis among the prehistoric races of America, based upon osseous changes, is scarcely yet at hand."—*Am. Jour. Med. Sc,* Dr. H. M. Whelpley has been elected Professor of Physiology in the Missouri Medical College, and has been made Director of the Histological Laboratory.

The Library of the late Dr. Frederick Ehrman is being catalogued, and will be offered for sale in September by Ezekiel & Bernheim, of 134 Main Street, Cincinnati, who will furnish catalogues on application.

Prof. Francis Peyre Porcher, M.D., LLD.—The University of South Carolina, at the Commencement in May, conferred the title of LL.D. on Dr. Peyre Porcher, the venerated and distinguished Professor of Therapeutics in the Medical College of South Carolina.

Suppurative Periostitis after Typhoid Fever.—An interesting observation has been made with reference to those suppurations which sometimes follow typhoid fever. In a recent number of the *Semaine Médicale* M. Achalme gives the result of the bacteriological examination of an abscess which formed at the inner side of the tibia of a patient convalescing from typhoid. The pus contained the bacillus peculiar to that disease and none others, and the cultures on potato were quite typical, as were also their effects upon animals. Our knowledge of this class of abscess is so scanty that it is to be hoped that this observation will soon be supplemented by others.—*Brit. Med. Journal.*

The Diagnosis of Pulmonary Cavities in Children.—In the *Revue des Maladies de l'Enfance* M. Aldibert enlarges on the untrustworthy character of the physical signs of pulmonary cavity in children. Dullness, cavernous breathing, gurgling, and the cracked-pot sound may all be present in cases not only of pleurisy, acute and subacute, but also, and this is not generally recognized—in acute pneumonia. Conversely, the most careful auscultation and percussion may fail to discover any signs of even large cavities, proved to have existed by post mortem examination. Further, he points out that the localization of physical signs at the apices is not, in children, evidence of their tubercular nature. Several well-observed cases are recorded, and his conclusion is that the signs of pulmonary cavity in children must be interpreted with the greatest reserve.—*Brit. Med. Journal.*

CORRESPONDENCE.

TREATMENT OF SPASMODIC COLIC BY THE LOCAL APPLICATION OF CHLOROFORM.

Messrs. Editors North Carolina Medical Journal:

About one year ago I was called to see Mr. M——. I found him suffering intensely with spasmodic colic. His pain was so great he was wet with perspiration and would not be still for a moment. I gave him a dose of morphine. His sufferings were so great I poured out about a teaspoonful of chloroform in the palm of my hand and applied it to the epigastric region and held my hand tighly pressed over it so as to prevent evaporation to get its revulsive effects. In less than a minute he was entirely free from pain and had no return of it. I thought it a mere coincidence until a few days ago. I was called to see Mrs. T., whom I found suffering with the same trouble, with the addition of constant vomiting. She had been suffering about three hours when I saw her. I don't think I ever saw any one suffer more. I gave her a hypodermic injection of morphine and atropine.

Remembering the effect of the local use of the chloroform in Mr. M's case, I used it in Mrs. T's case also, with exactly the same results. It was not more than one or two minutes before the pain subsided. The muscular coat of the bowels are under the influence of the sympathetic nervous system. Did the powerful revulsive effect of the chloroform over the solar plexus causes a relaxation of the spasm. The morphine did not have time to have any effect in either case. It may have been a coincidence. I don't think so.

I hope others will try it and report results in the JOURNAL.

Very respectfully,

J. L. NAPIER.

Blenheim, S. C.

[A correct observation, but not new.—EDS.]

MAN'S SUPERIORITY TO THE ANIMALS.—It takes four men to give an elephant castor-oil, the dose being ℥ cxxviii. We have known it to take three women and two men to give a small boy castor-oil, dose only ʒ j.—*Medical Record.*

IN MEMORIAM.

ABRAHAM VAN WICK BUDD, A.B., M D.

Entered into rest, at his home in Lockville, Chatham county, N. C., at 5 o'clock, p. m., June 26, 1891, Dr Abraham Van Wick Budd, in the 61st year of his age. He was born in New Jersey and educated in Pennsylvania. He was a private pupil of the late Prof. George B. Wood while studying medicine, and graduated in medicine at the University of Pennsylvania in the spring of 1853. After spending two years in Blockly Hospital, Philadelphia, in the practical study of diseases and their treatment, he came to this State and settled at Egypt, in Chatham county, where he passed many years of his life in the practice of his profession, ministering to the sick by day and by night; he won the respect, love and confidence of the whole community. When, in the spring of 1861, the fife and the drum called the true and the brave men to arms, to fight for this good Southland, he was among the first to volunteer as a private soldier in the first Company (the Chatham Rifles), raised in his county; and this Company was assigned to the 5th Regiment North Carolina Volunteers, and this regiment ordered to Yorktown, Va., where it arrived in June and remained there until the withdrawal of our army in the spring of 1862 by Gen. Johnston.

Dr. Budd acted as hospital steward and acting assistant surgeon in the general hospital at Yorktown during the summer and part of the fall of 1861, when he joined his regiment and acted as assistant surgeon until March, 1862, when he was ordered to the First North Carolina Hospital at Petersburg, Va., as hospital steward, where he remained in the efficient and faithful discharge of his duty until May, 1868, when he was appointed assistant surgeon and assigned to duty with the 3rd North Carolina Regiment, where he served until a short time before the close of the war, when he was captured and imprisoned and remained in prison until after the end of the war. "He was twice captured, and though every inducement was offered him to remain North, yet his sense of duty impelled him to refuse the temptation and to return to his post at the seat of war. This tested his true manhood and showed what a noble and true man he was." "Although born at the North, and with no family ties to bind him to the South, he served well and faithfully the 'Lost Cause" to the very end—until General Lee's surrender at

Appomattox." He returned home, and, as before, devoted himself to the practice of his profession among his friends and neighbors.

In 1875 he married Miss Anna C. Bryan, daughter of Capt. Elias Bryan, of Haywood, who, with their four children, survive him. In 1881 he removed to Lockville. Having known him well from his student days, in peace and war, I have never known a truer man, nor one more faithful to every duty, nor one possessed of more genuine charity, in thought, word and act.

I am informed that he had several times returned home in the cold winter, in his shirt-sleeves, and, being asked about his coat, he would say that he had given it to one who needed it more than he did. He would sometimes, in the coldest winter weather, return home without his overcoat; he would say that he had met one more in need of it than he was and had given it to him.

I am informed that on one occasion he was called to see one of a large and very poor family, all living in one room; he found more than one patient with typhoid fever. He had the house and whole premises thoroughly cleansed, another room added to the house, well whitewashed, and bought beds and bed-clothes, clothes and food for the whole family, as they all had the fever. He remained with them, night and day, for several weeks, attending upon and nursing them. [illegible] many weeks he had the pleasure of seeing the last patient convalescent, and soon saw all of the family well.

Years afterwards one of these boys, having grown up, gone out into the world and made money, and never forgetting the Doctor's kindness and devotion to himself and all of his family, offered to return to him all the money which he had spent for the family, and also to pay him for his attendance upon them. He declined to receive a cent. He was a good Samaritan as well as the good physician.

One of the best physicians and surgeons in this State, he was not very generally known, being ever a very modest man, not reporting or even talking about his operations and treatment of diseases. Few medical men have been more successful in their treatment.

He was a member of the Medical Society of North Carolina. A truly noble, honest, faithful man, an excellent citizen and good physician has been taken from among us. May he meet his reward in eternal peace and joy in the presence of his God.

Peace be with him, and may his memory be ever cherished and enshrined in the hearts of those who knew him best.

P. E. HINES, A.M., M.D.

READING NOTICES.

Severe Headache with Tendency to Congestion of the Brain.—In cases of severe headache with tendency to congestion of the brain, consequent upon La Grippe, I used Peacock's Bromides very successfully, and shall continue its use, it being far more satisfactory in my hands than any other preparation in similar cases.

Port Crescent, Washington. W. T. Strother, M.D.

Hay Fever Remedies.—Whatever may be the theory of the causation of hay fever, the question to physician and patient is, how shall the symptoms be relieved? Mere mention of the remedies that have been tried would almost make a treatise on materia medica.

Among these we wish to call attention to a few which have proven their efficacy. These may be conveniently described under two heads, viz: remedies for local use and for internal administration.

Local medication may include Cocaine in 4 per cent. solution, in tablet form or in nasal bougies. A good formula for bougies is the following: Hydrochlorate of Cocaine, 1 grain; Atropine, 1-200 grain; Cocoa butter, q. s. The bougie may be held in position by a pledget of absorbent cotton soaked in cocaine solution.

Menthol may also be used with advantage in 10 to 20 per cent. solution in olive or almond oil and applied to the nasal membrane with a brush, or in spray, or simply insufflated.

Fluid Extract Witch Hazel, distilled, and Fluid Hydrastis for local application are often of value in the catarrhal symptoms.

For internal administration to abort the paroxysms Grindelia Robusta, Euphorbia Pilulifera and Quebracho may be resorted to either alone or in combination. These remedies have shown their specific antispasmodic action in asthma, and accepting the neurotic origin of hay fever, must be conceded to be of service in restoring normal respiratory action in the distressing paroxysms of hay fever.

Parke, Davis & Co. supply all of these agents in eligible form, and will afford all desired information concerning them.

SYR. HYPOPHOS. CO., FELLOWS

Contains the Essential Elements of the Animal Organization —Potash and Lime.

The Oxydising Agents—Iron and Manganese;

The Tonics—Quinine and Strychnine;

And the Vitalizing Constituent—Phosphorus; the whole combined in the form of a Syrup, with a **Slightly Alkaline Reaction.**

It Differs in its Effects from all Analogous Preparations; and it possesses the important properties of being pleasant to the taste, easily borne by the stomach, and harmless under prolonged use.

It has Gained a Wide Reputation, particularly in the treatment of Pulmonary Tuberculosis, Chronic Bronchitis, and other affections of the respiratory organs. It has also been employed with much success in various nervous and debilitating diseases

Its Curative Power is largely attributable to its stimulant, tonic, and nutritive properties, by means of which the energy of the system is recruited.

Its action is Prompt; it stimulates the appetite and the digestion, it promotes assimilation, and it enters directly into the circulation with the food products.

The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; *hence the preparation is of great value in the treatment of mental and nervous affections.* From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

NOTICE—CAUTION.

The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, **finds that no two of them are identical,** and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, **in the property of retaining the strychnine in solution,** and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. **Fellows.**"

As a further precaution, it is advisible that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

Medical Letters may be addressed to:

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There is no food preparation that compares with it in nutritive properties.

It is partially prepared for assimilation, and, therefore, makes less demand upon the digestive powers of the gastric juice.

Being in the form of a dry powder and *sterilized*, it will keep in any climate. It contains 95 *per cent* of nutritious matter.

The use of BEEF PEPTONOIDS is indicated as follows:

Convalescence from all diseases, Pulmonary Affections, Pneumonia, Phthisis; Dyspepsia, Gastritis, and all Stomach Ailments; Fevers, Diarrhœa, Dysentery, and all Intestinal Diseases; Marasmus, Bright's Disease, Diabetes, and Excessive Use of Alcoholic Stimulants. BEEF PEPTONOIDS may be given per rectum in all cases where the stomach cannot digest food, and in Debility resulting from any cause.

PEPTONOIDS LIQUID.

This preparation represents BEEF PEPTONOIDS in the form of an elegant cordial, all constituents being entirely digested and ready for assimilation

LIQUID PEPTONOIDS is a nourishing peptogenic liquid stimulant with the albuminoids in a soluble state with only sufficient spirits added to preserve it. It contains the largest amount of albuminoid principles and the least amount of alcohol that is possible to use and make a stable compound.

LIQUID PEPTONOIDS will keep indefinitely; its flavor and palatability are such that many who have taken it liken it to a delicate cordial. It will readily be taken by patients who are unable to injest food in any other form (in these cases it has been found of the greatest service). In convalescence from fever and other diseases, in loss of appetite, weak digestion and gastritis its effects are positive, and it will never fail to give perfect satisfaction.

There is no preparation in the market that has been recommended so highly by physicians who have carefully tested it.

DOSE.—For an adult, one tablespoonful three times to six times a day children in proportion.

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A SEDATIVE NERVE AND BRAIN FOOD.

The most efficient and palatable preparation in **Nervous and Sick Headache Neuralgia, Insomnia, Neurasthenia,** and **General Nervous Irritability.**

Each dessertpoonful contains :—
- Caffein.
- Acidi Phosphorici, āā grains, ss.
- Antipyrin.
- Ext. Apii. Grav. Dulc. (Celery) āā grain j.
- Sodium Bromide, grains v.

DOSE.—One or two heaping teaspoonfuls in a half tumbler of water.
Put up in 4 oz. and 8 oz. Bottles

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(Successors to Reed & Carnrick for the above preparations,)

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GEO. GILLETT THOMAS, M. D., } EDITORS.

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NORTH CAROLINA
MEDICAL JOURNAL.

THOMAS F. WOOD, M.D.,
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ORIGINAL COMMUNICATIONS.

A STUDY OF ERGOT.

Experiments were made in Johns Hopkins Laboratory by Dr. John C. Hermeter, of Baltimore, Md., the objects of which were :

1. To determine whether the contractions of the uterus by ergot is of centric or peripheral origin.

2. Whether the peristalsis of the intestines is increased or diminished by ergot. If increased, whether this be due to a centric or peripheral action of ergot.

3. Whether the cause of the contraction of the blood-vessels in the omentum is central or peripheral.

4. Whether ergot produces a rise or a fall of blood-pressure. Whatever change occurs is it due to an action on the heart and arteries or on the spinal cord.

5. The action of ergot on temperature.

Dr. Hermeter says: "In no department of experimental therapeutics do we meet with such manifold and contradictory results, or with more widely-digressing theories than those concerning the action of ergot. This is especially true in the investigations that have hitherto been made relating to the nature and cause of the contraction of the pregnant and non-pregnant uterus, which is produced by this drug. Up to the present time it has not been established whether the action of ergot in this case is a peripheral or central one; that is, whether ergot acts by innervating the uterus through the spinal cord, or directly on the muscular fibre of the organ.

H. C. Wood admits the uncertainty, but thinks that the drift of present evidence is toward peripheral action.

T. Lauder Brunton intimates that ergot possibly acts like ammonia—producing contraction of the uterus after all nervous connections have been divided—but gives no experimental evidence for deciding the point.

Rosenbach is inclined to accept a direct and local action of ergot upon the muscular tissue of the uterus, indirectly causing contraction by bringing on acute anæmia of the organ.

These contradietory statements may be partly explained by the fact that the uteri of different animals vary greatly with regard to their irritability and to the manner in which they respond to stimulations by general contractions. A part of the discrepancies in the opinion of the investigators mentioned might be explained by the fact that the quality and efficacy of ergot and of its preparations obtainable in pharmacies vary greatly.

As the watery infusion of fresh ergot (this having been used by former investigators) was found to undergo changes very rapidly, I concluded to resort to the fluid extract of ergot, but found this as obtained from various sources very variable, both in physical properties and therapeutic efficacy, some of the specimens having a very offensive odor. In two German preparations of ergotin and one liquid ergotin prepared in Basle, Switzerland, and specially recommended by the manufacturer for hypodermic use, a very unpleasant fœtid odor, reminding of decomposed organic matter, was noticeable, and the last named used hypodermically proved very irritating, causing an abscess in a patient suffering from goiter.

Some of the secondary results in the experiments upon animals were undoubtedly caused by the impurities of the ergot used.

My attention was at last called to a form of liquid ergotin made in Baltimore by Sharp & Dorme, which gave evidences of being a standard preparation, both in clinical and experimental application. I have had some of this ergot in my possession for nearly ten months (since February 3, 1890). It has deposited no sediment, has a fresh, pure odor, and is very effective. This ergotin solution, which is probably the most concentrated liquid preparation of ergot that can be obtained, has since become known under the name of ergotole, to distinguish it from the numerous and widely-differing preparations sold under the name of ergotin. In my experiments this form of ergot was used, together with two forms of fluid extract of ergot, the officinal containing hydrochloric acid, the other no acid, which, however, were more bulky.

After the injection of l. c. c. of fluid extract of ergot (about 16 minims), the capillaries and arterioles in the omentum of a large rabbit could be seen to contract within from five to eight minutes, and the uterus showed peristaltis contractions. On the other hand, 0.25 c. c. (4 minims) of the liquid ergotin just described produced the same effect on the arterioles in from two to three minutes (rarely five minutes), and the contractions of the uterus were more active and followed each other with greater rapidity. The ergot in both cases was diluted with the same quantity of distilled water, and injected into the jugular vein in preference to the hypodermic method, as the absorption of solutions of ergot from beneath the skin in animals is very slow.

I began my experiments by first curarizing the animal (rabbit), isolated the uterus from all nervous connections by destroying the spinal cord from the tenth dorsal vertebra to the cauda equina by running a white-hot copper wire down the vertebral canal, and arrived at the following conclusions :

Ergot, in producing contractions of the uterus, acts primarily and essentially upon the lumbar cord, i. e., its action in causing peristalsis of the uterus is centric, not peripheral.

Ergot reduces the number of pulse-beats per minute.

In the isolated frog's heart it reduces the force of the contractions.

It exerts a local poisonous influence on the heart of the batrachian as well as on that of the mammal when injected into the jugular vein.

Its main action, however, is exercised through the influence of the central nervous system.

It raises arterial pressure when injected into the jugular vein of mammals. Lhe rise is preceded by a primary depression due to the local action on the heart.

It is impossible at present to decide whether this local action is due to an influence on the heart muscle or on the cardiac ganglia.

It lowers temperature by reducing the number, force and tonicity of the cardiac contractions, consequent upon which is loss of tone in the general circulation with its attendant reduction of oxidation processes.

The therapeutic effects of few drugs correspond so closely with their physiological action as do those of ergot.

The theory of its action is based upon the artificial anæmia which it induces in the arterial vessels, so that the histological process of inflammation is impeded.

The power of ergot to reduce temperature, the number of respirations, and at the same time maintain increased arterial pressure, makes it a most important agent in the management of the first stage of pneumonia and bronchitis.

We believe that ergot exercises a very decided effect upon the pulmonary vessels.

Transudation has been proved, by a very large number of observers, to depend mainly upon the permeability and elastic distensibility of the blood vessels.

If transudation is associated with increased heart's action, we know that ergot reduces the number of heart-beats.

If the beginning of pneumonic exudation is associated with hurried breathing, we know that ergot reduces the number of respirations per minute.

If transudation is connected with fever, we know that ergot reduces temperature.

If the fever in inflammatory exudations lowers blood-pressure, we know that ergot raises it.

All of these physiological effects directly counteract the main features of the pathological process and check further transudation, while the lymphatics carry away the exudation that has already occurred.

Upon the power of ergot to constrict the arterioles and to cause arterial and capillary anæmia depends its application in a large number of disease conditions. It has been successfully used in hæmoptysis, hæmatemesis, epistaxis, hæmorrhage from the gums; renal, hæmorrhoidal and vesical hæmorrhage; in the bleeding caused by carcinoma, dysentery, mitral regurgitation, aortic insufficiency, dilatation of the heart, goitre, meningitis, epilepsy, locomotor ataxia, hemicrania and diabetes mellitus.

CYSTIC DISEASE OF FŒTAL KIDNEY IMPEDING LABOR.—Dr. Ehrhardt has recently described a case of cystic disease of the fœtal kidney impeding labor (*Nouv. Arch. d' Obst.*) A woman aged 23 was delivered at the eighth month of her second child. The fœtal heart sounds could be heard before labor; the abdomen of the mother was much distended. The head and the arms were delivered and found to be very œdematous. After prolonged traction the fœtus remained fixed. The maternal pelvis was normal. Distension of the child's abdomen was then detected by passing the hand into the uterus after decapitation and removal of one arm, and evisceration was attempted. The liver was removed; next a large friable tumor was drawn down; a few pieces were drawn off, and then small cystic degeneration of one kidney was diagnosed. This drawing down of the kidney allowed the remains of the fœtus to be delivered by gentle traction on the thorax. Small cystic degeneration of both kidneys was discovered. The spermatic plexus was slightly varicose. It was remarkable that the fœtus lived till delivery, since both kidneys were entirely degenerate and the heart diseased. The case snows the insignificant part played by the kidneys during intrauterine life, and refutes the theory which attributes the origin of the liquor amnii to the urine of the fœtus. One of the kidneys was just over, the other just under, 5 inches in vertical measurement. The success of drawing down one of the tumors muft be remembered as a precedent. It diminished the transverse diameter of the fœtal abdomen, which was the sole cause of impediment to delivery.—*Brit. Med. Jour.*

URINALYSIS—A SYLLABUS OF THREE LECTURES DELIVERED BY INVITATION BEFORE THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA, AT ITS THIRTY-EIGHTH ANNUAL SESSION, HELD IN ASHEVILLE, MAY 26TH, 27TH AND 28TH, 1891.

By J. W. LONG, M.D., Randleman, N. C., Chairman Section on Gynecology (1891) of the Medical Society of the State of North Carolina; Secretary Randolph County Medical Society; Member of the Southern Surgical and Gynecological Association, etc., etc.

Comprising:
Preliminary remarks.
The albumin tests.
The sugar tests.

THE URINE.

Selection of a Specimen.

1. Be sure you get the *patient's* urine.
2. The specimen should be voided about 3 hours after a meal of mixed food.
3. Morning urine is least likely to contain either sugar or albumin.
4. Urine voided 3 or 4 hours after a meal gives effects of both food and exercise.
5. Examination should be made within 6 to 10 hours after urine is voided.
6. If not, add resorcin, 2½ grs. to the ounce, which preserves urine for several days.

Quantity.

1. Average 40–50 f ℥.
2. Women pass less than men.
3. In disease—varies from total suppression to 30–40 pints.

Frequency of Micturition.

1. Diminished or increased frequency invites inquiry.
2. Rising at night demands investigation.

3. Increased frequency suggests :
   (*a*) Albuminuria.
   (*b*) Diabetes.
   (*c*) Bladder, or urethral troubles.
   (*d*) In women—(1) Pelvic inflammations.
   (2) Pregnancy.
4. Diminished frequency is indicative of retention or suppression.

Color.

1. Normal—pale yellow—varies considerably.

2. In disease—ranges from color of water, through various shades of yellow and red, into black.

3. Colorless urine indicates absence of normal pigments, as in anæmia, chlorosis, etc.

4. Pale greenish color suggests sugar.

5. High colored urine, as in acute febrile attacks, indicates absence of water and presence of abnormal coloring matter—uroërythrin.

6. Blood and bile give their peculiar colors.

7. Certain drugs, as santonin and rhubarb, produce characteristic colors.

8. Acid urines are deeper colored than alkaline urines.

9. Vogel's scale of colors is the best.

Reaction.

1. The reaction for the whole 24 hours is always acid.

2. The degree of acidity varies much, being greater on rising, after using acids, flesh diet and exercise. The reaction becomes less acid (or alkaline rarely) after meals, vegetable diet, use of alkalies, when mixed with blood or pus, and when gastric juice escapes by a fistula.

3. The acidity is due to acid sodium phosphate.

4. The reaction is determined by red and blue litmus paper.

5. An alkaline reaction may be due to fixed or volatile alkali.

6. The first is due to excess of (alkaline) carbonate of potassium and sodium, and reflects a condition of the blood.

7. The second is due to carb. amm., and is caused by alkaline fermentation, dependent usually upon an inflammatory condition of the lower urinary tract.

8. These are easily distinguished by the red litmus paper, which on drying retains the blue color if due to a fixed alkali, but changes back to red if due to the volatile alkali.

9. Acid fermentation begins early and reaches maximum on the third day—it is due to mucus, a fungus, and absorption of oxygen.

10. Afterwards alkaline fermentation sets up, due to an unorganized ferment secreted by a micro-organism—torulæ ureæ (Lea)—which splits urea into amm. and water.

11. This alkaline fermentation may take place in the bladder by the use of dirty catheters—introducing micro-organisms.

Specific Gravity.

1. 1015—1025—as usually stated.
   1018—1023—Purdy.
2. Infants, 1003—1006—(Macumme).
3. Pathologically, ranges 1002—1050.
   1002—1043—extremes I have seen.
4. Any marked deviation demands investigation.
5. The s. g. is increased in :
   (*a*) Diabetes Mellitus, (*b*). First stage of acute Bright's.
   (*c*) Acute fevers, (*d*). Forced marches.
6. The s. g. is decreased :
   (*a*) After first stage of acute Bright's and in all other forms of Bright's.
   (*b*) Hysterical and spasmodic hydruria.
   (*c*) After large draughts of liquids.

7. The proportion of solids to liquids influences s. g. As a rule, the less urea the less the s. g., albuminuria and sugar being eliminated.

8. Squibbs' urinometer is the only reliable one :
   (*a*) Standardized for tem. 77.0, with variations marked for each instrument.
   (*b*) Air chamber is double cone.
   (*c*) Jar is fluted.
   (*d*) Has thermometer with it.

Transparency.

The transparency may be diminished—turbid—from the following causes :

Mucus.

1. Appears as delicate cloud floating towards the bottom.
2. Increased by any irritation of the genito-urinary tract.
3. More apt to be present in urine from females.
4. Heat, alkalies, nor strong acids affect the turbidity from mucus.
5. The precipitate is increased by alcohol, dilute mineral acids, acetic or citric acid, which coagulate the mucin.
6. If mucus is abundant, pus is apt to be present as they are from the same cause, the difference being in degree. If urine containing mucus does not give albumin reaction no pus is present.

Earthy Phosphates—Lime and Magnesia.

1. The phosphates of the urine are earthy phosphates and alkaline phosphates.
2. The alkaline phosphates are soluble in water and acids, and not precipitated by alkalies or heat.
3. The earthy phosphates are soluble in acids, but insoluble in water, and are precipitated by alkalies and heat. Only these concern us.
4. Earthy phosphates may be present in urines alkaline or normally acid.
5. Turbidity dissipated by cids. Turbidity increased by alkalies. Turbidity increased by heat.
6. Source of error in the heat and acid test for albumin.
7. Held in solution by free carbonic acid.

Mixed Urates.

1. In health the uric acid is held in combination with potassium, amm. sodium, calcium and magnesium.
2. These compounds (urates) are very soluble at temperature of body, but are precipitated when tem. of urine is lowered, as in winter.
3. Uric acid is a bibasic salt forming acid urates and neutral urates. The former are less soluble than the latter and form bulk of deposits.
4. An acid added to solution of neutral urates seizes upon a part of the base (sodium), leaving an acid urate, which is immediately precipitated in a finely granular form. This happens in the nitric acid test for albumin.

5. The urates rapidly subside, forming white or pink deposit more or less bulky.

6. The turbidity is dissipated by the heat.

Pus.

1. The presence of pus is always pathological.

2. Forms opaque white sediment if urine is acid.

3. Settles rapidly in inverse proportion to amount of mucus present.

4. Resembles pale urates and phosphate of lime.

5. Heat dissolves former and acids dissolve latter, while both increase turbidity from pus by coagulating albumin contained in liq. puris.

5. Alkalies convert pus into glairy viscid mass.

Donne's test:

1. Let deposit settle and pour off supernatant fluid.
2. Add liq. potassæ.

If pus forms viscid gelatinous substance resembling mucus, or white of an egg.

6. This reaction takes place in urine after alkaline fermentation takes place, between pus and carb. amm.

7. This may occur in bladder

8. In examining specimen with mucoid deposit be sure to ascertain the reaction.

9. Urine containing pus from pelvis of kidney contains little mucus and is acid.

10. If source of pus is from the bladder it is apt to become quickly alkaline, if not already so, when Donne's reaction takes place.

Chyle.

1. Chylous urine is always pathological.
2. It is essentially fat in minute subdivision.
3. Caused by a filiform worm 8-10 centem. (1-3 in) long.

Filaria Sanguinis Hominis.

4. Common in tropical countries.
5. Turbidity ranges from mere cloud to milkiness.
6. Fat rises to top and forms creamy layer.

How to Clarify Turbid Urines.

In all albumin tests urine must be clear. If not—

1. Filter through Sweedish filter-paper.
2. Add liq. pot. 1 part.
   Urine 4 parts.
   Warm and filter.
3. Add ½ gtt. magnesian fluid. Warm and filter.

Magnesian fluid :

℞.—Sulph. mag.	1 part.
Chloride amm	1 "
Aq. destillat.	8 "
Liq. amm	1 "

M.

General Precautions.

1. Never let flame touch test-tube above fluid, to prevent breaking.
2. Hold side of tube to flame while boiling, to prevent explosive boiling.

Albumin Tests.

Three kinds of albumin :

1. Serum albumin, coagulated by heat.
2. Alkali albumin, not coagulated by heat.
3. Acid albumin (syntonin) not coagulated by heat.
   Easily converted from one kind to another.

Heat and Acid Test.

1. Urine test-tube ⅔ full.
2. Boil (top).
   If precipitate :
   - (*a*) Earthy phosphates.
   - (*b*) Albumin.
3. Add nitric acid ½ gtt., then 5-30 gtt.
   If phosphates, precipitate disappears.
   If albumin, precipitate increases.
4. Cover test-tube and set aside 12 hours.
   If precipitate :
   - (*a*) Acid urates, acid acting in neutral urates.
   - (*b*) Uric acid, reaction of acid on acid urates.

(*c*) Nitrate urea, urine concentrated and highly charged with urea.
(*d*) Albumin.

5. Boil—all dissolved except albumin.

Nitric Acid Test.

(By Heller's, or the contact method.)

1. Nitric acid, ½ inch in test-tube.
2. Urine, from pipette.

If precipitate:

(*a*) Albumin—sharp white band or zone, at junction of urine and acids; increased by heat.
(*b*) Acid urates—cloud, begins to form higher; diffused through urine; dissipated by heat.
(*c*) Nitrate urea—union high s. g.; crystal resemble pine-straw; forms under line of junction; dissolved by heat.
(*d*) Oleo-resins—yellowish-white cloud; dissolved by alcohol; (M. says danger of explosion.) Detects 1-100th per cent., or 1 part to 100000; Millard, *N. Y. Medical Journal*, May, 1891, p. 526.

Precautions.

1. A brown ring occurs with normal urine from coloring matter, and may color albumin zone. If indican is present, ring is rose-red or violet. If blood-coloring matter, brownish-red ring. If biliary coloring matter, greenish hue.

2. Hold test-tube obliquely while adding urine.

3. Have end of pipette roughened.

4. The cloud of urates may be overcome by diluting with 2 or 3 parts of water.

Robert's Acid Brine Test.

℞.—Sat. solution salt........................ Oi.
Hydrochloric acid........................ ℥ i.

M. and filter.

1. Has high s. g.
2. Contact method.

3. Equal in delicacy to nitric acid.
4. Less caustic and less corrosive.
5. No source of error (Tyson), but zone from urates may occur. The upper faint cloud that forms after 20–30 minutes not well understood.

Robert's Acid Magnesian Test.

℞.—Sat. solution sulph. mag	℥ v.
Nitric acid	℥ i.
M.	

1. Watery clear solution, does not fume, stain or burn fingers; s. g. 1240; may be carried in bottle in pocket with safety.
2. Contact method.
3. Detects albumin, 1—1,000,000 (Millard).
4. Subject to errors of nitric acid.
5. Cannot be used with urine clarified with liq. pot. on account of decompositions induced.

Millard's Test.

℞.—Phenic acid, 95 p. c.	ʒ ii.
Acetic acid, pure	ʒ vii.
Liq. potassæ	℥ ij. ʒ vj.
M.	

1. Contact method.
2. Detects albumin when present 1 part to 300,000, and is one of the best tests we have.
3. Urates only source of error, which may be overcome by dilution. (See nitric acid test)

Ferrocyanide Potassium Test.

1. Urine, 3 or 4 inches in test-tube.
2. Make strongly acid with sat. solution citric acid.
3. After a few moments filter through double Sweedish filter paper.
4. Sat. solution ferrocyanide potassium, ʒ ss.

If albumin, precipitate quickly forms.

1. The precipitate, after adding citric acid, is mucin, which, filtered out, removes that source of error.
2. Test does not respond to :

(*a*) Peptones.
(*b*) Vegetable alkaloids—quinine, strychnine, etc.
(*c*) Oleo-resins.

3. Responds to all modifications of albumin.
4. Equal in delicacy to nitric acid.
5. Must avoid heat, which decomposes ferrocyanide.

Trichloracetic Acid Test.

1. Urine, test-tube half-full.
2. Crystal trichloracetic acid.

If albumin :

Zone of turbidity quickly forms just above acid.

Zone of turbidity from urates forms more slowly and not so wide—may be overcome by free dilution with water before test.

"In the *Johns Hopkins Hospital Bulletin* there is a report, by Dr. D. Meredith Reese, on trichloracetic acid as a test for albumin in urine. An editorial note in the *British Medical Journal* had called attention to this new test, which Boymond professes to have first brought into notice. This reagent precipitates albumin in cold solution, and is considered to rank among the most delicate tests. Under Dr. Reese's observation 87 specimens of urine were examined. In 25 cases there was no reaction of any kind. In 14 cases where there was no reaction in check-experiments the trichloracetic acid gave a precipitate. In 11 of these granular, epithelial and hyaline casts were found, and in 3 of these 11 cases the post-mortem showed distinct changes in the kidneys. In 3 cases where heat, acetic acid and and nitric acid gave no precipitate of albumin, a precipitate was obtained with picric and trichloracetic acids; and casts were found in these 3 instances. Trichloracetic acid is a delicate test, is prompt and easily applied, and gives no discoloration or colored zone.—*New York Medical Journal, August* 30, 1890.

In the *London Lancet* (March 21, 1891) Dr. Tirard speaks of the practical value of trichloracetic acid as a test for albumin in the urine, and says :

"I have long been employing this test, both in private and in insurance examinations, and can speak very highly of its results. I have been in the habit of comparing its reactions with those given by nitric acid and picrid acid, and while I have never found it fail to react in specimens in which albumin has been discovered by other tests, it has given a line of opacity in numerous samples which have been unaffected by nitric acid or picric acid. In some of these the trichloracetic acid appeared to be a more delicate test, since in cases with a history of an acute attack of nephritis the urine has often given a line of opacity after it might have been declared free from albumin when the customary tests were employed. On the other hand, the need of the warning originally given by Boymond (*Repert. de Pharm.*) has been very strongly impressed upon me by several cases, viz: that when the urine is rich in urates the reaction may appear without any albumin being present, and this possible source of error can only be avoided by free dilution of the urine before making the test.

" With regard to the desirability of carrying this reagent in the pocket, the effects of a crystal on a piece of blue paper or on the blade of a knife have been sufficient to deter me from making the experiment. Although trichloreatic acid may be used in either a solid or liquid form, it gives the most striking results when a good-sized crystal is dropped into the test-tube containing the urine. The crystal speedily liquefies, and, if albumin is present, produces a zone of turbidity in the urine just above it; otherwise a sharply defined line marks the junction of the white acid with the yellow urine. The zone of turbidity appears immediately when due to albumin, but when due to urates it forms more slowly, and is not so wide."

Quantitative Tests for Albumin.

Physicians are guilty of much carelessness on this subject. We often hear of 25, 50 and 90 per cent. of albumin. Of course, the proportion in bulk is meant, but is seldom so stated.

Three or 4 per cent. is probably the maximum amount, as blood contains only 5 per cent.

Two per cent. albuminuria is a large one, ½ per cent. is much more common.

Heat and Acid.

Mark a test-tube in tenths, with a file, and estimate proportion of settled precipitate, after boiling and adding acid.

Esbach's Albuminometer

Is a glass tube, graduated to show the number of grammes to the litre.

To use the instrument, fill the same to U with the urine, and to R with the test solution; then mix by agitation. Close the tube by a rubber stopper and lay the whole aside for 24 hours to obtain a perfect and well settled precipitation.

Each of the main lines of division to which the accumulated precipitation reaches represents one gramme of albumin in one litre of urine, or 7.68 grs.—Oi.

The test solution consists of—

10 grammes picric acid, to coagulate the albumin	ʒ iiss
20 grammes citric acid, to keep the phosphates in solution	ʒ v
Boiling water sufficient to make one litre	O 2.113

2 grammes picric acid represent one gramme albumin.

The per cent can be told by moving the decimal point one figure to the left.

Less than five grammes to litre or 1-20 p. c. cannot be accurately estimated.

Sugar.

1. Passing more than 3 pints of pale urine day after day, with s. g. 1030 or over, is suspicious of diabetes.

2. Albumin interferes with any heat test for sugar, therefore, if present, must be removed by boiling acid and filtering.

3. Nearly all tests for sugar (glucose) depend upon its property of abstracting oxygen in the presence of an alkali.

Böttger's Bismuth Test.

1. Liq. pot. 1 part.
2. Urine 1 part (2 parts—Buch.)
3. Subn. bismuth, "a pinch"= $\begin{cases} \text{Bi } ONO_3 \\ \text{Oxynitrate of bismuth.} \end{cases}$
4. Shake and boil for two minutes.

If sugar:

(*a*) Gray oxide bismuth, $Bi_2\,O_3$, falls as a powder.
(*b*) Black metallic bismuth, Bi. " " "

Precautions.

(*a*) If only a small amount of sugar is present, must use a very small granule bismuth.

(*b*) Test not good if copper salts are present.

(*c*) Albumin or other sulphur-containing substances, as pus, blood, mucus, etc., may produce black sulphide bismuth, $Bi_2 S_3$, which resembles metallic bismuth.

Nylander's Test.

℞.—10 p. c. solu. caust. soda 100 c. c.= { ℞.—Caust. sod., ℈viii
Aq. q.s.... ℥ iiiss }
Rochelle salts, c. p., 4 grammes, =................ ʒ i
Dissolve by heat, stop boiling, and
while hot add
Subn. bismuth 2 grammes, =................ ʒ ss

Shake occasionally while cooling, decant, and keep in dark-colored bottle in a dark place.

1. Urine, 1 part—Buch.
2. Solution, 2 parts.
3. Boil.

If sugar: dark mahogany or black precipitate metallic bismuth and suboxide.

Note—Simonds applies the test as follows :

1. Urine test-tube half-full.
2. Solution, about one-third.
3. Boil upper layers only.

Is reduced by :

1. Sugar, cold.
2. Normal urine.

Advantages.

(*a*) Keeps better than Fehling's and is less cumbersome.

(*b*) Less delicate than Fehling's, reducing only 1-10th per cent., though Buch says it always give reaction when Fehling's does.

(*c*) Not so readily reduced by other substances.

The Copper Tests.

Depend upon the power grape-sugar has of reducing oxide of copper, and other metallic oxides, to a lower state of oxidation.

Trommer's Test.

In this test the oxide of copper is set free when the solution of sulphate of copper is added is the test mixture.

1. Urine, 4–5 c. c.
2. Liq. potassæ, 4–5 c. c.
3. Solution sulph. copper (1–30), 1–2 gtt., $CuSO^4$.

Blue precipitate of hydrated cupric protoxide, Cu2HO, is thrown down if sugar is present.

4. Agitation redissolves product, a beautiful blue transparent fluid.
5. Boil for a few seconds—30—only.
    (*a*) Copious yellow precipitate, hydrated cuprous suboxide, Cu22HO.
    (*b*) This afterward loses its water and falls as red powder, cuprous suboxide, Cu_2O.

This powder clings closely to bottom and sides of test-tube.

Precautions.

1. A specimen treated the same way, but not boiled, may be set aside for 24 hours, as most other organic substances that reduce the copper salts do so after boiling.
2. Albumin and some other substances prevent reduction of cupric oxide.
3. Do not use too much solution cupric sulph.
4. Do not boil over half minute.
5. The earthy phosphates are precipitated when the potash is added, and must not be taken for cupric protoxide. They can be eliminated by adding potash and filtering before adding the copper solution.
6. Mere change of color is of no significance.
7. There must be an actual precipitate of yellow or red oxide.
8. Uric acid and other substances found in urine will reduce the cupric oxide.
9. Poor test, because of the many sources of error—Buch.
10. With proper precautions reliable results may be had when 1–2 to 1 per cent. sugar is present.

Fehlings' Test—Squibb's Formula.

1. As stated, an alkali added to solution sulph. copper throws down precipitate of hydrated cupric protoxide, Cu2HO.
2. This precipitate is not dissolved by an excess of alkali, unless some organic matter is present.

3. For this reason, if grape-sugar happens to be present in the suspected fluid, the precipitate of hydrated cupric protoxide is immediately dissolved, forming a beautiful transparent blue solution.

4. These facts enable us to construct a fluid which will hold the protoxide in solution. Tartaric acid, which does not reduce the copper, is usually chosen.

5. The tartaric acid renders the solution—Fehling's—so notoriously unstable that to be of service it must be freshly prepared for each application.

6. To overcome this difficulty Dr. Squibb makes the solution in two portions:

    (*a*) Solution of alkaline tartrate.
    (*b*) Solution of cupric sulphate.

These solutions will keep for a number of months, and are used as follows:

1. Copper solution, 1 c. c.
2. Water, 1 c. c.
3. Alkaline tartaric solution, 1 c. c.
4. Water, 1 c. c.
5. Mix well, without putting finger over mouth of test-tube.
6. Boil—if solution is good it remains clear.
7. Let solution cool a moment or two.
8. Urine, 1 c. c.
9. Mix well.
10. Boil.

If sugar, loses its transparency and becomes of dirty greenish color.

Haine's Test.

℞.—Pure sulphate copper................	grs. xxx
Pure water........................	℥ ss
Make perfect solution and add pure glycerine..............................	℥ ss
Mix thoroughly and add liq. potassæ...	℥ v.

This makes a perfectly clear dark-blue liquid, is perfectly stable and can be set aside indefinitely.

1. Solution, ʒ i.
2. Boil gently, to see if solution is good.
3. Urine, gtt. 6–8, not more.

If sugar, abundant yellow or yellowish-red precipitate.

Dr. Purdy uses this test constantly with most satisfactory results

While these tests are nearly faultless in point of delicacy, their accuracy is not great. They are only negatively sure, but a positive result with any of these is nearly valueless, because of other reducing substances that may be present. I have given the best practical tests known, but even they are not free from error.

The great trouble with all reduction tests is that other substances than sugar will sometimes reduce them. Among these substances are:

1. Normal ingredients of the urine, as:
    - (*a*) Uric acid.
    - (*b*) Creatinin.
    - (*c*) Pyrocatechin.
2. Substances occasionally present in urine, as:
    - (*a*) Oxybutyric acid.
    - (*b*) Urochloralic acid, from chloral.
    - (*c*) Glucoronic acid, from camphor.
    - (*d*) Turpenoglycuronic acid, from turpentine.
    - (*e*) Marshall's glycosuric acid.
    - (*f*) Kirk's uroleucic and uroxanthic acids.
3. Drugs during excretion, as morphine, chloroform, salicylic acid, cubebs, copaiba, glycerin, carbolic acid.

Resumé.

Bismuth Test—Reduced by the sulphur compounds.

Nylander's Test—Perhaps the surest (reduction) test, detecting 1-10th of 1 p. c. glucose, but is said to be occasionally reduced by other substances. It has never failed me.

Fehling's Test—Detects 1–20 of 1 p. c. glucose, but readily reduced by other substances. A case recently under my care showed by Squibbs' and Purdy's tests 16 and 18 grs. of sugar to the pint was proven by the phenylhydrazin test in the hands of Dr. Thomas F. Wood to be free of sugar.

Dr. Symond's, in the *New York Medical Journal*, June 12, 1890, reports 7 or 8 cases reduced by Fehling and Nylander's tests, and afterwards shown by phenylhydrazin and fermentation to be free from sugar. Frank Donaldson, Sr., reports a case in which the reduction by Fehling's test amounted to over 8 p. c. of glucose, or over 38 grs. to the ounce, which other test proved to contain no sugar.

Fortunately there are two tests to which we may appeal with the full assurance that we can get positive evidence of the presence of sugar. These are as follows:

Phenylhydrazin Test.

(Devised by Fischer, modified by Ultzmann.)

1. Phenylhydrazin, or its hydrochlorate, 1–2 inches.
2. Sodium acetate, pulverized, 1–2 inches.
3. Urine—test-tube half-full.
4. Shake till sodium is dissolved.
5. Heat gently to boiling point and boil 1–2 minutes.
6. Decant into conical glass and let cool.
7. Place drop of sediment under microscope.

If sugar—acicular crystals of golden-yellow color—phenylglucosazone—formula $C_{18}H_{22}N_4O^4$.

These crystals have marked tendency to crystallize in stellate or rosette form, like sheaves of wheat or feathers.

The crystals are formed in from 15 minutes to 48 hours, according to the amount of sugar present—can be seen in 3 hours if 1-20th per cent. sugar.

Symonds has found the crystals in urine containing only 1-100th of 1 p. c. sugar, but only after 48 hours.

This test reacts with lactose, galactose and maltose. None of these except lactose occur in urine, and this only during acute suppression of lactation. Tyrosin forms somewhat similar clusters, but the crystals are colorless.

The crystals of phenylglucosazone are characteristic and a positive indication of sugar.

Fermentation Test.

The only other certain test for sugar is that by fermentation, which is just as accurate, though less delicate, than phenylhydrazin. There are two methods of doing it:

1. Take specific gravity of urine.
2. Put 4 ounces in a 12-ounce bottle with nicked cork.
3. Add yeast, ʒ i.

4. Set in warm place—60–80° F.—for 12 or 24 hours, when fermentation will be complete.

5. Take s. g. and subtract from first s. g. Each degree lost equals 1 gr. sugar to the ℥ i. The number of degrees lost by 23 gives the per cent.

Example: s. g. 1040 before fermentation.
s. g. 1030 after ‘ =10° lost, or 10 grains sugar to the ounce—10 × .23=2.30 p. c.

This test, while accurate as to the presence of sugar, is only approximately correct as to the amount of sugar, and will not act with less than 5 p. c. or 2½ grs. sugar to the ounce. It is less delicate than the method by

Einhorn's Tubes.

By this method the carbondioxide, CO^2, given off by the fermentation is collected and measured. One gramme of glucose, when fermented, will form 250 c. c. of carbondioxide. By this method 1-10 p. c. glucose can be demonstrated.

Estimation of Sugar in Urine.

In a paper read before a recent convention of German naturalists, Dr. U. Haussmann stated that he had concluded from the results of practical experience that the best method of estimating sugar in urine is by means of fermentation, giving this method the preference over the use of bismuth, copper or phenylhydrazin. For a qualitative test, the urine should be first boiled, to remove dissolved gases, and, after cooling, introduced with pure pure yeast into a U tube, of which the longer arm is sealed, and maintained at a temperature of 35° to 40° C.—95° to 104° F. A large bubble of gas collects in this arm after two or three hours, even if only 0.05 per cent. of sugar be present. Good quantitative results, according to Dr. Haussmann, may be obtained by a comparison of the reduction and polarizing equivalents, and also of the specific weights of the solution, determined before and after fermentation of the liquid.—*Druggists' Circular and Chemical Gazette.*

Directions:

Take one gramme of fresh commercial compressed yeast, or 1-16 of a cake of Fleishmann's yeast, shake thoroughly in the graduated test-tube with 10 C.C. of the urine to be examined. Then pour the mixture into the bulb of the saccharometer. By inclining the apparatus the mixture will easily flow into the cylinder, thereby forcing out the air. Owing to the atmospheric pressure the fluid does not flow back, but remains there.

The apparatus is to be left undisturbed for 20 to 24 hours in a room of ordinary temperature.

If the urine contains sugar, the alcoholic fermentation begins in about 20 to 30 minutes. The evolved carbonic acid gas gathers on the top of the cylinder, forcing the fluid back into the bulb.

On the following day the upper part of the cylinder is filled with carbonic acid gas. The changed level of the fluid in the cylinder shows that the sugar reaction has taken place and indicates by the numbers—to which it corresponds—the approximate quantity of sugar present.

If the urine contains more than one per cent. of sugar, then it must be diluted with water before being tested.

Diabetic urines of straw color and a specific gravity of 1018–1022 may be diluted twice; of 1022–1028, five times; 1028–1038, ten times.

The original—not diluted—urine contains in proportion to the dilution two, five or ten times more sugar than the diluted urine.

In carrying out the fermentation test, it is always recommended to take, beside the urine to be tested, a normal one, and to make the same fermentation test of it.

The mixture of the normal urine with yeast will have on the following day only a small bubble on the top of the cylinder. That proves at once the efficacy and purity of the yeast.

If there is likewise in the suspected urine a small bubble on the top of the cylinder, then *no* sugar is present, but if there is a much larger gas volume, then we are *sure* that the urine contains sugar.

We have unconsciously wandered into the

Quantitative Sugar Tests.

(Fehling's–Squibbs' Formula.)

The two solutions are accurately made, and when put together in equal proportions, 1 c. c. of the mixture = 5 milligrams glucose.

In other words, 5 milligrams grape-sugar will reduce exactly the amount of protoxide of copper contained in 1 c. c. of the solution :

℞.—Copper solution........................ 1 part.
Tartrate solution...................... 1 “
M.

1. Water, 4 c. c., ½ inch.
2. Fehling's solution, 1 c. c.
3. Urine, 1 c. c.
4. Boil.

If 5 mg. glucose are present, the blue color will all be discharged. If urine is highly saccharine, dilute with 1 to 10 parts water and multiply product in mg. by the total number of parts used—urine 1 part, water 3 parts = 4 parts. If 1 c. c. of this solution discharges all the blue color, then the urine used contains 5 mg. + 4 = 20 mg. to 1 c. c., or 2 p. c.

If 1	c. c.	urine contain	5 mg.	sugar =	.5	p. c.,	2.4	gr.—	℥ i
“ 2	“	“	“	“ =	.25	“	1.2	“	“
“ 3	“	“	“	“ =	.16	“	.8	“	“
“ 4	“	“	“	“ =	.125	“	.6	“	“
“ 5	“	“	“	“ =	.1	“	.5	“	“
“ ½	“	“	“	“ =	1	“	4.8	“	“
“ ¼	“	“	“	“ =	2	“	9.6	“	“
“1-10	“	“	“	“ =	5	“	24.0	“	“

Purdy's Quantitative Test.

1. In doing the quantitative test with Fehling's solution the precipitation of the suboxide of copper renders the solution so turbid that it is hard to tell when the blue color is all discharged. Adding urine little at a time and waiting for the suboxide to settle, consumes too much time.

2. To overcome this difficulty Pavy added ammonia, which holds the suboxide in solution and improves the working of the test.

3. Unfortunately Pavy's solution is more unstable than Fehling's,

4. To overcome the instability Schmiedeberg substituted mannite for the tartaric salt, which is the cause of the instability.

5. Purdy has simplified and improved this formula by substituting pure glycerine for the mannite—this makes a test solution

that is stable, simple, cheap, rapid in application, accurate in results and well adapted for clinical purposes.

Purdy's Solution

℞.—Cupric sulphate—pure............ ʒ ss.
Caustic potash—pure, in sticks..... ʒ iiss.
Strong ammonia—s. g. .880........f ℥ vss
Glycerin—pure..................f ʒ vi.
Water, distilled, q. s..............Oi.

Dissolve the copper in part of water and add the glycerin. Dissolve the potash in part of water and mix the two solutions When cold add the ammonia, and finally water, q. s. Oi. Carefully filter and keep closely stopped.

1. Distilled water, f ℥ i in ℥ iv. glass flask.
2. Solution, fOzi., 30 c. c.
3. Bring to boiling point.
4. While gently boiling add urine, drop by drop, from minim pipette.
5. When color begins to fade, let 10–12 seconds elapse between drops till the blue color is entirely gone.

It takes just 1-4 gr. of grape-sugar to discharge all the blue color in the Ozi. solution. The number of minims it takes to decolorize the solution multiplied by 4 contain 1 gr. sugar, and the number of minims in ℥ i (480), divided by the number of minims containing 1 gr., give the amount of sugar in an ounce, thus :

If 10 minims decolorize the solution, 10 × 4 = 40 minims, contain 1 gr., 480 ÷ 40 = 12 gr., contained in ℥ i= 2.5 p. c.

The per cent. is obtained by dividing the number of grains in an ounce by 4.80.

Upon cooling, the blue color slowly returns, due to the absorption of oxygen from the atmosphere reconverting the suboxide into blue protoxide.

Advantages.

1. Rapidity of application, 5–10 minutes.
2. Accuracy—if 2–30 gr. to Ozi, shows within 1-10th to 1-20th, gr.
3. Perfect cleanliness and simplicity—no copper products clinging to test-tube, or turbidity.
4. Stability almost indefinitely.
5. Cheapness—20 cents a pint.

SOME NOTES ON THE USE OF CUPRIC ARSENITE IN ACUTE DISTURBANCES OF THE ALIMENTARY CANAL; AND SUMMER DIARRHEA AMONG INFANTS,

By W. H. Harrell, M.D, Williamston, N C.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

About three years ago Dr. John Aulde, of Philadelphia, published his experience with cupric arsenite in acute disturbances of the alimentary canal. It was not until the past summer, however, that much was published in the medical periodicals about it. Dr. Aulde claimed to have secured good results from the administration of extremely small doses frequently repeated; his formula being:

℞.—Cupric arsenite	gr. 1-100th
Aquæ	℥iv

M. Sig. One teaspoonful every ten minutes until pains and cramps are relieved and the diarrheaic discharges reduced in number.

The discussion provoked by what was termed the "infinitesimal" and "Homæopathic" doses, caused me to institute a series of investigations for myself. The following cases noted was the result:

Case 1.—A. W., female, aged 14. Had eaten a hearty dinner, while apparently perfectly well. Called at 10 o'clock that night, and found the patient suffering with intense nausea, with pain and cramps of bowels. Had vomited the undigested remains of dinner, and had three copious watery evacuations. Applied hot towels to abdomen to relieve cramp, and gave

℞.—Cupric arsenite	gr. 1 100
Tr. opii deod	gtts. xxx
Aquæ	℥ij.

One teaspoonful every ten minutes.

Before the third dose patient expressed herself as being greatly relieved of both nausea and pain. After the fifth dose, she being greatly relieved, ordered the medicine continued at intervals of one or two hours during the night.

At 9 o'clock next day found the patient so well that the case was discharged.

Case 2.—Mrs. B., aged 48. Had diarrheaic discharges to the number of eight to twelve for twenty-four hours, accompanied by the griping pain usually attendant. Began the treatment with a laxative dose of granular effervescent citrate of magnesia, and gave

℞.—Cupric arsenite.................... gr. 1 100
Aquæ.............................Ozij

One teaspoonful every fifteen minutes.

Had one discharge during the first two hours after beginning treatment; none for the next four hours. Continued the mixture, one teaspoonful every two hours, for twenty-four hours. Three actions altogether during the first twenty four hours. Discontinued the medicine after the third day. Patient apparently well. No other medication.

Case 3.—Child 4 years old. Called at 10 o'clock a. m., found child fretful, restless and feverish, with intense thirst. Was having small, teasing, greenish actions, mixed with mucus; had been so since the afternoon of the day before. Gave

℞.—Cupric arsenite.................... gr. 1-100
Aquæ.............................Oziv

One teaspoonful every twenty minutes.

One discharge about one hour after first dose; two more during next five hours. Continued the medicine at intervals of two hours during the night. At 8 o'clock next day found the patient bright, having had only one action during the night—at 12 m. Ordered a ʒ ij dose of castor-oil, which produced a large evacuation of greenish mucus mixed with undigested particles of food.

Discharged the patient same afternoon.

The above three cases are taken from a series of 14, extending over the period of May and June, 1890.

In a number of chronic cases the result was at best only negative. In most cases, also, the addition of tr. opii deod., was undoubtedly an important factor in the treatment. The result leads to the conclusion that it is a remedy of great value in acute gastro-intestinal disturbances, and worthy of a further and fuller trial. It does not, however, seem to be of much value in chronic diarrhea, nor did I find the good result claimed by some to have been secured in dysentery.

One thing that seems odd is the slight difference between the doses administered to children and to adults

SUMMER DIARRHEA OF INFANTS.

Entering, as we now are, upon that period so prolific of gastro-intestinal disturbances, I feel that any discussion of them will be of interest to the profession. A common, and at the same time obstinate disease, which we will soon see on all sides, and among all classes of patients, is one to which physicians, as a rule, devote entirely too little study, both as to prevention and treatment. In this paper I shall attempt to review some of the most salient points of diarrhea of infants.

Summer diarrhea, or, as it is frequently designated for want of a better term, "Dyspeptic Intestinal Catarrh," may, according to Dr. Holt, of New York, exist for months in the form of a "lesion" before the attention of a physician be called to the case.

As is well known, the intestines are thickly studded with lymph-glands, and these play no unimportant part in chronic intestinal catarrh. The report of the New York Foundling Hospital for the year 1890 calls attention to the fact that autopsies made in a number of cases disclosed very slight catarrhal change, while the solitary glands and lymphoid masses were found to be greatly enlarged and frequently ulcerated. This leads to the conclusion that the products of decomposition being absorbed are active in causing a congestion, and, in all probability, the rupturing or breaking-down of these glands, the result being a number of ulcers small ulcers of the mucous lining of the canal.

In a paper published in 1888 Meinert, of Dresden, says that out of about 500 fatal cases of diarrhea among infants about 350, until the acute attack, had previously healthy digestive organs. His statement was widely quoted and criticised, from the fact that mothers do not, as a rule, attach any importance to a diarrhea during dentition, sometimes considering it salutory, and even objecting to having it cured. Upon careful investigation we will find that a large number of acute attacks have been preceded by two or three weeks of what the mother calls "indigestion." To this no importance is attached until serious symptoms become prominent. The practical point to bear in mind is the prevention of the so-called "dyspepsia" or "intestinal catarrh." To do this the most careful attention must be paid to finding, or what is of more importance, over-feeding. While this applies to all cases it especially applies to hand-fed infants. The object is to prevent the long-continued irritation of the intestinal glands, caused by the presence of undigested masses and the absorbtion of ptomaines, the product of decomposition. I do not intend to discuss the proper mode of infant feeding nor the proper amount needed by each individual infant, because I have not been able to secure enough information on the subject to warrant it. Every case of infantile diarrhea should be treated as early as it appears, especially during the hot months. If taken early, a great number will readily yield to a simple laxative to clear the canal of offending material and a proper diminution of its usual quantity of food. If it does not yield to this (combined with proper medication), in a few days we may be satisfied that it is something more than "indigestion." Recent investigations seem to have proven summer diarrhea to partake of the nature of a "lesion," one of the most prominent changes being the swelling and rupturing of the solitary follicles, forming minute ulcers. The rational treatment is preventive treatment. Of course we must take into consideration bacterial poisons and intestinal decomposition and fermentation, but the points to be most emphasized in the prevention of chronic diarrhea among infants are :

1. Every case of indigestion should receive early attention.
2. To secure proper digestion we must have proper feeding.
3. Most infants, especially those hand-fed, are over-fed, both in frequency and quantity.
4. Each case, however mild, must be considered as likely to produce serious results if neglected.

In connection with this it will not be out of place to describe a mode of treatment highly recommended by the authorities of most infant asylums, and which Dr. Seibert, of New York, claims to be especially valuable when the gastric functions are impaired. Lavation, or the washing out of the stomach with large quantities of tepid water, which may or may not be medicated, is practiced and commended by several authorities on diseases of children. It is simple, reasonable and practicable. Bathing the stomach walls with a large quantity of tepid water not only relieves that organ of any undigested food that may be irritating, but is at the same time mildly stimulating to the torpid gastric glands, and a sedative to the membrane lining and nerves supplying it. In the New York Infant Asylum I have seen used an instrument designed for that purpose, which is furnished by all instrument-makers. But the country practitioner may supply himself with a substitute with little trouble and slight expense. I will describe one that I have used and find it answers as well as the more elaborate and costly ones. To the glass reservoir of an ordinary nasal douche attach a piece of rubber tubing (4 or 5 feet long) with a metal clamp similar to the ones used on a fountain syringe. To the other end of the rubber tube attach a Nélaton catheter by means of a small glass tube 4 or 5 inches long. Fill the glass receptacle with tepid water, and with one assistant the operator is prepared. By means of the gag the jaws are kept open and the tongue pressed down until the catheter can be introduced into the stomach, after which the gag may be removed. Open the stop-cock and allow about Ozij or Oziij of water to flow slowly into the stomach by raising the vessel above the head. By detaching the rubber tube from the glass tube and allowing it to hang down, it will form a perfect syphon and empty the stomach again. The first washing will be milky and contain particles of undigested food and mucus, which gives it a ropy consistence. When the stomach is empty attach the rubber to the glass tube again and proceed as before. The operation may be continued until the water returns clear. If necessary the water may be medicated.

A large proportion of summer diarrhea may be cured by this means without other treatment. This is particularly true of cases where the gastric symptoms are most prominent.

Of 13 cases thus treated by myself last summer 8 or about 60 per cent. were permanently cured without any drugs whatever.

CONSTIPATION A NEUROSIS.—Dr. Dunin, of Warsaw, thinks that habitual constipation is in most cases a neurosis, due generally to the use of purgatives He does not think it necessarily harmful if a person goes several days without a passage. Besides dietetic and hygienic measures, he prescribes bromide of potash and antipyrin.—*Medical Record.*

CLINICAL REPORT OF THE CASE OF JOHN T. D.—MULTIPLE ABSCESS OF LIVER.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

By W. H. Wilson, M.D., Dallas, N. C.

On May 26th, 1890, I was hurriedly summoned to the bedside of J. T. D., aged 67; dark complected and bony frame, and of a tough constitution. Found him suffering with intense pain over entire right hypogastric region; skin cold and clammy; facial expression indicated the greatest agony and anxiety. Patient had been suffering severely for two hours—less severely for twelve hours previous to onset of severe paroxysm of pain. Gave the history of a previous attack of pain in the same region a week previous, which lasted six hours; had taken no treatment up to this time. I at once gave him an injection of ½ grain of morphine and applied hot poultices to seat of pain. Administered stimulants. Patient could not lie down—had not for previous night. In twenty minutes I repeated the morphine and stimulants as there was no abatement of pain. (Had no chloroform or would have administered it.)

After waiting some twenty minutes more I repeated the morphine injection, continuing the hot applications, which was followed in a few minutes by partial relief from pain, warmth of skin, which up to this time had been cold and clammy. Facial expression relieved of its agonizing appearance, but could not lie down. In one hour I repeated the morphine, which rendered the patient easy in twenty minutes, and he resumed the recumbent position; but with all this morphine he would scream with pain when moved. His mind was now in a perfect stupor. I pronounced the case one of hepatic colic. Left him a prescription of calomel, ipecac and rhubarb, to be given in six hours at intervals of two hours until three powders were taken, to be followed by a large dose of a saline cathartic in six hours after administration of last powder. In a few hours bowels were freely moved and actions of a very bilious nature. I did not examine them for gall-stones.

After my second visit, on May 27th, I left the case in care of Dr. C. E. Adams, to attend the North Carolina Medical Society.

Pain returned after morphine died out, but less severe. Dr. A. gave morphine and antipyrine as temperature had become hyperpyretic. Repeated liver stimulants on night of 27th, which acted well. Tongue, which had been heavily coated, now began to clean off. Pain still present, but less severe. Dr. A. blistered and continued antipyrine at night, which gave him rest. Dr. A. also gave lithiated hydrangea.

On the 29th and 30th symptoms were, pain over affected region; fever 101°; tongue still slightly coated; no appetite.

On the 31st I returned and took charge of his case. As kidneys had been acting well I stopped the hydrangea. Gave him 5 grs. quinine every six hours and muriatic acid three times a day.

On night of June 1st gave a purgative, which acted well. Continued acid and quinine. Lungs still clear up to this time, and other symptoms unchanged. These symptoms continued resembling a case of bilious fever until the 5th of May, being the ninth day of his disease, when his bowels began to run off; actions composed almost entirely of bloody matter. These discharges relieved the pain over hepatic region, and I then pronounced his case one of abscess of liver pointing into bowels. Actions continued of this character for four days. Symptoms abated and patient seemed better, but weak.

On May 9th, the thirteenth day of his disease, patient was seized with a violent spell of coughing, which lasted two hours, during which time he expectorated about two pints of almost pure matter or pus. Lungs had been clear up to this time; this I considered a rupture of the abscess of the liver into the lung. Temperature, which up to this time had been 100° in morning and 102° in the evening, became normal; skin moist and clear, appetite improved and tongue cleaned off nicely. Had a paroxysm of coughing about every twelve hours for four days, during which time he expectorated pus from the ruptured abscess Bowels continued to move and actions were composed of the pus from the abscess which had pointed into bowel and their contents.

On the eighteenth day of his disease patient was much improved, bowels now in fair condition, lungs clear. Pus ceased to be expectorated; appetite fair; discharged on condition that if he did not do well to call me again.

Did well for three days, when I was called again. Patient had the night before been seized with a fit of coughing and had spit up about a pint of pus. This cough continued for seven days at intervals; fever returned; tongue coated; appetite gone again. A typhoid condition developed, patient became very weak, and on the twenty-eighth day of his disease death relieved his suffering. He died of asthenia and asphyxia

Am I correct as to diagnosis?

Never during the case did nature show any tendency to point externally.

To what were these abscesses due?

Some months previous he had "la grippe" and suffered from a bilious condition, but took no medicine.

Were these abscesses due to the congestion resulting from the grippe and his predisposition to liver trouble, or to gall-stones?

From the symptoms, should I have anticipated abscess of the liver and lanced into it from the outside, or was the conservative course I followed correct? The liver could be detected as enlarged, but no tumor felt or outlined. After the discharge a tympanitic note was discovered over the liver.

Please discuss the case.

* * *

LIGATURES OF THE SILK-WORM GUT, which some of our advanced young surgeons have been using with some éclat as a nobby and new thing, was antedated from 1763 by Selborne. See his note of a part of an angler's line being made "of the intestines of a silk-worm."—*Nat. Hist.*, Selborne, Camelot series, p. 62.

THE DURA MATER IN THE SPINAL CANAL.—Wagner (*Archiv. für Anat.*, Parts 1 and 2, 1890) has a paper on the ending of the sac in the dura mater in the human spinal canal. The frequency with which the sacrum has of late been the subject of operation has necessitated more exact knowledge. Investigations were made by injecting the dura mater of children and adults. It was found that the lower end of the dural sac reached the lower end of the second sacral vertebra. The sac may reach the third vertebra in children, but never descends lower. In children the vertebral column is so mobile that the position of the meninges may alter within wide limits.—*Sup. to Brit. Med. Jour.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

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THOMAS F. WOOD, M. D., Wilmington, N. C., } Editors.
GEO. GILLETT THOMAS, M. D., " }

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THE THERAPEUTICAL VICISSITUDES OF VERATRUM VIRIDE.

What we are to say about the vicissitudes of veratrum viride may be, in effect, written against many more of the indigenous medicines of our country, but of none can it be written so emphatically that it has at last risen from a condition of almost complete eclipse, to a position amongst the most valuable, because the best understood, of such drugs.

The introduction of veratrum viride was really by Dr. Wesley C. Norwood, of Cokesbury, South Carolina, who contributed his first essay on the subject to the *Southern Medical and Surgical*

Journal, June, 1850, then published in Augusta.* It is not much to be wondered at that, in the days of crude therapeutic knowledge, it should need the declamatory methods to bring a new drug into notice. Extravagance and lack of discrimination marked the language of the innovation. It was an expectorant, an emetic, diaphoretic, deobstruent, had "powerful effects on the liver," and great effects as a nervine, in "in allaying morbid irritative mobility in febrile and inflammatory diseases." Following the lead of Dr. Norwood, others wrote about it as being especially adapted to asthenic diseases. His chief and most rational view was its efficacy in pneumonia, declaring it to be as much a specific in that disease as quinine is for intermittent fever. In chronic rheumatism, in gout, in dyspepsia, in scarlatina, measles, yellow fever and typhoid fever; in the latter disease he declared it was the remedy upon which we rely with every assurance of success. Above all, veratrum was *the* substitute for the lancet.

A remedy of such great pretensions grew rapidly into notice, but soon settled itself among the conservative members of the profession as a remedy for pneumonia and pleurisy. Along about 1858 veratrum was being tried by the profession in general, but in a few years the camp was divided as to its merits. There were two or three elements that conspired to divide the profession. Dr. Norwood had introduced the preparation under the name of "Norwood's Tincture" of veratrum, and by this name the drug was dispensed from every drug store, and under that title it was entered in the "Standard Supply Table of Indigenous Remedies" of the Confederacy. It is not obvious whether it was the design of Dr. Norwood to have control of an exclusive preparation, or if he was conscious, in his enthusiasm for his new remedy that, to a considerable proportion of the profession, the effect was to place it among the proprietary drugs.

The overdrawn statements of Dr. Norwood had induced physicians to employ the drug in cases that were unfavorable, and this want of discrimination proved fatal. The medicine had not been long in use when unfavorable reports came in from many directions. The editor of the old series of the NORTH CAROLINA MEDICAL

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*The medicinal properties of the plant had been described by Dr. Tully, of New Haven, and by Dr. Osgood in 1835. It had also been mentioned by Rafinesque, *Med. Flora.*

JOURNAL (Dr. Edward Warren, 1858) was among the adverse critics. His arraignment of the disastrous results of medication with veratrum were long and loud. Among his concluding opinions, in a review of Norwood's essay, he says:

"It thus becomes evident that the teachings of a sound pathological philosophy do not demand the employment of veratrum viride in pneumonia as a "substitute" for the lancet and such other means as are of known utility in the treatment of that structural lesion which is the essential feature of the disease; but, on the other hand, that both reason and experience unite in proclaiming the utter folly of an indiscriminate and exclusive employment of so unreliable a remedy in one of the most dangerous maladies that "flesh is heir to."

With the advent of the war, veratrum gradually passed into disuse. The diseases of camp, after the seasoning epidemics of measles of the first year, were largely of the asthenic type, and the use of veratrum was greatly hindered, even in cases where it was deemed appropriate, by the lack of intelligent nursing; it was deemed too dangerous a remedy to entrust to the improvised soldier nurse.

We get one more and a last glimpse of the triumphs of veratrum in the *Confederate States Medical and Surgical Journal*, August, 1864, until its post-bellum reinstatement. Dr. C. R. Harris, in a contribution to that Journal from the field, relates the cure of a case of "Acute Mania a Potu" with 18 drops of Norwood's Tincture, given in the course of an hour, in two doses.

Had the remedy held its sway there would have been a famine of veratrum in the Confederacy, the plant being rather scarce in the South,* so much so that Dr. Porcher, in his "Resources of the Southern Fields and Forests," recommended as a substitute veratrum intermedium and veratrum parviflorum.

* * *

The period from the outbreak of the war including nearly a decade, was a period of therapeutic nihilism. One of the great teachers of the day* had reduced his list of medicines, which were unquestionably beneficial in particular diseases to four—Quinine in ague, Pitch Ointment in psoriasis, Male-shield Fern in tape-worm, Sulphur Ointment in scabies. He added three more—Cod-liver Oil in scrofulous and tubercular diseases, Lemon Juice in scurvy, constant moisture in eczematous and impetiginous diseases, adding that the two first should be placed among the dietetica and the latter among the hygienica. The Confederate medical officer who had followed the fortunes of his regiment in the field, with a medical outfit limited to opium, quinine and Dover's-powder in sparing supply, could conveniently fall into the new era, even though his therapeutic convictions were not shaken. We do not contemplate the analysis of therapeutic skepticism, but returning to the fortunes of veratrum viride, we find that its reinstatement is about cotemporaneous with the study of the physiological action of drugs. Experimental therapeutics, aided by clinical observation, not by a friendly copartnership, but in spite of each other, accumulated facts enough, so that about 1870 we find the use of veratrum taken in hand by the laboratory therapeutist and the clinician. To Prof. H. C. Wood we owe most of what we know of veratrum as detailed in the *Philadelphia Medical Times* of 1872. Dr. Fordyce Barker, in his admirable work on "Puerperal Diseases," 1874, and in a contribution to the *Buffalo Medical and Surgical Journal*, March, 1877, added substantially to the reputation of the drug. Dr. Geo. F. Cooper, of Georgia, in the Transactions of the American Medical Association, 1879, entitled "Veratrum Viride—Its Physiological and Therapeutical Effects Considered," gives us a good résumé of known properties of the drug with his own observations. In the JOURNAL of May, 1879, will be remembered the instructive case reported by Dr. Charles J. O'Hagan, of the hypodermic use of veratrum in puerperal eclampsia. The memorable symposium on the use of the drug in the King's County Medical Society, makes it almost the Brooklyn remedy.

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*Information from Wallace Bros., the largest herb dealers in the South, does not confirm Dr. Porcher's opinion about the scarcity of veratrum. They write one of the editors "it is not over-abundant in any section of North Carolina, still it is not scarce." Their stock this year will be 15,000 pounds, but when prices were good they secured 60,000 pounds.—EDS. JOURNAL.

It is not our intention to collate a bibliography of the literature of the therapeutics, but rather by sketching an outline of the vicissitudes of this remedy to impress upon the profession the difficulties of establishing a remedy in its proper place as a curative agent.

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*J. Hughes Bennett, Practice of Medicine, 3d ed., 1866, p. 335

From the most inflated promises as to its applicability to impossible things, and having learned to avoid its use in asthenic cases we can conclude by quoting from Wood's Therapeautics: "With our present knowledge of the physiological action of veratrum viride, it is evident that there are only two rational indications for its use, namely, *to reduce spinal action and to reduce arterial action.* Owing to the very great effect veratrum viride has upon the circulation, it is never called for to meet the first indication, and in practice should simply be used to lessen the force of the circulation. The use of the drug in *typhoid* fever and other adynamic diseases is simply an "irrational and dangerous practice, founded upon an erroneous idea of the action of the remedy."

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"When true sthenic arterial excitement is to be combated in any disease, except it be *gastritis*, veratrum viride may be employed as a prompt, thoroughly efficient, and at the same time very safe, remedy—very safe, since it is almost incapable of producing death in the robust adult, unless with great recklessness and in repeated doses. In the early stages of *sthenic pneumonia* it offers, I believe, the best known method of reducing the pulse-rate and the temperature and of ameliorating the disease. It is hardly necessary to mention other individual diseases in which veratrum viride may be emyloyed to carry out the present indication."

PORTRAIT AND BIOGRAPHICAL SKETCH OF DR. JAMES H. DICKSON.—We expect to have a handsome and truthful steel portrait of the late James H. Dickson for the September JOURNAL. This is a long-delayed tribute to one of the earliest Presidents of the Medical Society of North Carolina (1853), and the first President of the Board of Medical Examiners. We expect to be able to put all of the first Board of Examiners on record in the same substantial way. Those who desire special copies, for framing, of Dr. Dickson or the others whose portraits have appeared, can get them for 50 cents from this office.

REVIEWS AND BOOK NOTICES.

A Practical Treatise on Diseases of the Skin. By Henry G. Piffard, A M , M D , Clinical Professor Dermatology, Assisted by Robert M. Fuller, M.D. With 50 full page original plates and 33 illustrations in the text. New York: D. Appleton & Co., 1891.

The elegant volume before us reaches the high-water mark of beautiful art in typography and in the choice of photographic illustrations. The author has long been recognized as a skilful adept in all the details of the photographic art, although generally accounted an amateur.

But to the *tout ensemble* of the work itself! The first thing we note is that everything like profound technicality has been avoided, the aim of the author being to lend a helping hand to those who are to treat skin diseases. He aptly introduces his topic in the following paragraph, which may be taken as the ruling idea of the volome. The paragraph is on the subject of diagnosis:

"Correct diagnosis of cutaneous affections is the foundation of successful therapeutics; but diagnosis, properly speaking, does not alone consist in giving the correct or approved name to the disease immediately under consideration, nor even in a careful differentiation of the special variety. It involves a broader knowledge, including a more or less complete acquaintance with the nature and relationships of the various affections. The mere naming of a disease is a comparatively easy matter, and of greatly inferior value to their more comprehensive knowledge that appreciates that the disease is not a distinct entity by itself, but is rather the result of a particular or peculiar pathological process in progress in a person with a given constitution or habit of body. An eczema in one may be the expression of ill-nutrition from privation or a scanty supply of proper food, while in another it may be the result of a plethora due to excessive indulgence in the pleasures of the table. We may, it is true, apply the name eczema in both instances on account of similarity of the lesions; yet the real condition of the two patients is diametrically opposite. In other words, in making a diagnosis in cutaneous pathology we must not be content with being able to simply give the systematic name that is applied to the particular lesion or group of lesions, but we should be able to make a diagnosis of the patient as well."

The classification which follows is very simple, adopting the very correct idea, that there are some diseases that belong to more than one division of cutaneous lesions, and therefore properly places them there. Eczema, for instance, which is considered a vesicular disease, is most rarely seen in the vesicular form, therefore he places it under the head of "vesicle," "papule," "scale," "fissure."

We would at once find fault with the author for allowing these beautiful full-page photographs to be printed without their names appended, as though the average doctor, who resorts to the book to be informed, would exclaim at once, upon viewing the first plate, "What a fine example of chloral eruption!" We catch the name on the page opposite the illustration, and are constrained to say, "What a beautiful piece of work!"

The American dermatologists now seem to have completed all the requirements of the specialists and of the country doctor in admirable works, and with illustrations so truthful, because directly from nature, that the day of the pictorial art, having its most beautiful exemplification in Willan's exquisite works, may be said to be a thing of the past, and yet, no one has given to the medical public as clear a representation of vaccine vesicle from nature as came from the pencil of this great master 60 or 70 years ago.

Professor Piffard's work is not so rich in "good prescriptions" as some of the recent works in our library, his book evidently having been designed for practitioners who are not servilely bound to the formulary.

The good points we have noted in our examination of this volume are sufficient to enable us to commend it to the increasing class of physicians who are building up their office libraries with discriminating judgment.

The price of this work is $15, and will be delivered by express, or will be sold on installment payments.

Text-Book of Ophthalmoscopy. By Edward G. Loring, M.D. Edited by Francis B. Loring, M.D. Part II, Diseases of the Retina, Optic Nerve and Choroid; Their Varieties and Complications. New York: D. Appleton & Co., 1, 3, 4 & 5, Bond Street, 1891.

The appearance of this elegant volume brings to our minds the sad death of its accomplished author, who died suddenly on the 23d April, 1888, in the midst of a career of professional success and scientific authorship of the best quality. Part I. of this work appeared two or three years ago, and called forth encomiums of praise from those best qualified to pass judgment upon his special department.

The preparation of this volume for the press was done by Dr. Francis B. Loring, of Washington, who says, after a careful reading of [the author's manuscript) he found that there was so much original matter in it, so much that from its very nature must provoke discussion and argument, that he determined to publish it as it stood, without addition or correction.

It will add largely to the interest of the work to know that it was "Dr. Loring's habit to draw these for himself." Good skill with the pencil is a talent so necessary for authorship that no work needing illustration can have the same teaching qualities when the author has to impart his inspiration to another artist. The chromo-lithographic illustrations consist of 14 figures, representing: (1) Phlebitis of the retina. (2) Anastamosis of vessels of the retina occurring in a patient the subject of syphilitic retinitis. (3) Embolism at three points. (4) Another case of embolism in which the entire retina seems to have a milky white appearance, except a faint reflex at the lower periphery. (5) Represents same retina six weeks after first attack. (6) Another embolism, shown also in another stage in figure 7. (8) In a case of retinitis albuminurica, which has passed from the simple retinitis to that of neuro retinitis. (9) A form of retinitis of the outer layers of the retina, and of the pigment layer. (10) A retinitis, in which the small central spot at the fovea is surrounded by a circle of still more minute spots which give a glittering reflex. (11) Retinitis punctata albescens. (12) Syphilitic retinitis. (13) Central senile areolar choroidal atrophy; and (14) choked disc from tumor of the brain.

The illustrations in black which are in many cases duplicates of the chromo-lithographs, are hardly less explanatory of the text than the others, especially to those readers not familiar with the appearance of the fundus of the eye.

The press-work is most beautifully done, and the work all together creditable to the American medical profession.

SERIES FOURTH OF THE PHYSICIAN'S LEISURE LIBRARY. George S. Davis, Detroit.

By the crowding of our book-table we have laid aside month by month many of the publications of this series. Many of these small volumes contain essays and lessons of practical importance to the physician from the pens of the best American authors. The list of this year is as follows: Taking Cold, by F. W. Bosworth, M.D.; Practical Notes on Urinary Analysis, by William B. Canfield, M.D.; Practical Intestinal Surgery, Parts I. and II., by F. B. Robinson, M.D.; Lectures on Tumors, by John B. Hamilton, M.D., LL. D.; Pulmonary Consumption, a Nervous Disease, by Thomas J. Mays, M.D.; Lessons in the Diagnosis and Treatment of Eye Diseases, by Casey A. Wood, M.D.; Diseases of the Bladder and Prostate, by Hal. C. Wyman, M.D.; Artificial Anesthesia and Anesthetics, by DeForest Willard, M.D., and Lewis H. Adler, Jr.; Cancer, by Daniel Lewis, M.D.; The Modern Treatment of Hip Disease, by Charles F. Stillman, M.D.; Insomnia and Hypnotics, by Germain Sée, translated by Dr. E. P. Hurd.

These volumes are handy, cheap, well printed, and just the thing to catch up for a half hour in the hammock at the sea-side, or in the office after dinner.

The volume on *Taking Cold*, by Dr. Bosworth, is full of good thoughts and practical instruction, and is, upon the whole, the wisest essay we have read upon an all-important subject.

Dr. J. B. Hamilton has given us in the short space of 137 small pages some lectures on *Tumors*. After the general consideration of and definition of tumors, follows their classification. The special descriptions following are plain, scientific, and illustrated with abundant clinical points, and several cuts are introduced, which, if not of high artistic merit, have a certain value. The author's qualifications as a teacher are fully sustained in this booklet.

We have selected only two of the "Leisure Library" volumes for notice. If they were in reach of the doctors who are not much given to serious continuous reading of weightier volumes, many a side-pocket of many a doctor would have one of these in the place of other, but less profitable, reading. Send 25 cents to the publisher for any of the volumes and judge for yourself.

THE POCKET ANATOMIST. Founded upon Gray. By C. Henri Leonard, A.M., M.D., Professor of the Medical and Surgical Diseases of Women and Clinical Gynæcology, in the Detroit College of Medicine. Fourteenth revised edition, containing Dissection Hints and Visceral Anatomy. Detroit, Mich., 1891. The Illustrated Medical Journal Company, Publishers Cloth, 297 pages, 193 Illustrations. Price, post-paid, $1.00.

This book is issued on thin, though nicely glazed paper, and takes up but little room, though 300 pages in thickness. The plates introduced are photo-engraved from the English edition of Gray, and are therefore exact; most of them are full-paged, and where they are not, they are grouped together so as to save as much thumbing as possible. The useless "questions" are absent in this work and their room given to needed illustrations or terse descriptions of the minor parts found in the several dissections made. The chapter given to "Dissection Hints" gives the lines of incision necessary to best expose the underlying organs, arteries, nerves or muscles. The chapter on Gynæcological Anatomy can be found only in the more expensive work of Savage. The pronunciation of each anatomical term is given, be it artery, vein, nerve, muscle or bone. Over 100 pages are devoted to the anatomy of the special organs and viscera. The book has been honored by a re-printing in England after some 3,000 copies had been sold over there by the American publishers.

A TEXT-BOOK OF BACTERIOLOGY. By Carl Fraenkel, M.D., Professor of Hygiene, University of Königsberg. *Third Edition*, translated and edited by J. H. Linsley, M.D., Professor of Pathology and Bacteriology, Medical Department of the University of Vermont; Demonstrator of Pathology and Bacteriology, New York Post-Graduate Medical School and Hospital, etc., etc. Octavo, 380 pages. Extra muslin, $3.75. New York: Wm. Wood & Company.

Professor Fraenkel's work comes to us with the endorsement of Prof. Koch through the editor and translator, a word of praise which will at once assign it to a high place in the increasing literature of this very interesting and essential department of medicine. There are many sciolists in bacteriology, there are few masters, and one likes, when he picks up a volume for information and instruction, to know if he is being taught by a master.

The first chapter deals with classification, morphology, biology, structure; the methods of investigation with the microscope, together with staining and mounting, are included in the second chapter. The methods of laboratory cultivation of micro-organisms, and the methods of transmission, including also the questions of immunity, the phagocytic theory of Metschinoff and Koch's rules for the determination of pathogenic bacteria complete the first division of the work.

From the fifth chapter begins the special description of individual bacteria, beginning with those which are non-pathogenic, followed by the pathogenic bacteria; the whole concluding with the mould and yeast fungi. These latter are here considered because of their near relationship to the bacteria.

We believe that the study of bacteria could be made much more interesting and useful by beginning the training in the study of the macrosopic fungi. The habits, polymorphism, sporulation, and many other phenomena of the larger mushrooms would most usefully pave the way to the understanding of the minute and more delicate micro-organisms.

STORIES OF A COUNTRY DOCTOR. By Willis P. King, M.D.; with illustrations by J. A. Fitzgerald. Price $1.00 in cloth. Philadelphia: Hammel & Parmele, 1891.

This is a very readable book, one that we have noticed before favorably. It comes out now in the hands of a new publisher, beautifully printed and bound. We are sorry to see that its pages have been defaced by advertisements inserted after the title page and before the table of contents, and before the preface, and that the blank pages and outside cover are given up to advertisements, one, if not two, of which is of a proprietary remedy. The advertising mania is rapidly reaching its highwater mark, and the doctors are reäcting against the obtrusion of the flaring notices of Anti-this-that-and-the-other before their eyes at every turn of a medical journal, and now we have the bad example followed in a book otherwise meritorious.

CURRENT LITERATURE.

HOW TO USE COCAINE.

Dr. John B. Roberts: "I find cocaine of value in ophthalmic and in minor surgery. I use it in these cases quite frequently. In the operations for phimosis, ingrowing toe nail, and the extirpation of small tumors, I find the use of the drug exceedingly satisfactory, as well as in the extraction of cataracts. I believe it to be important that the tissues upon which it is employed should not be alkaline. This point I have gained from reading, however, as I have not made any special study of it. I usually incarcerate the drug where it is possible to do so."

Dr. Carl Seiler: "I have carefully observed the action of cocaine, as used in my practice, ever since the introduction of the drug into surgical practice. My experience is, that the drug, in solution, not stronger than 4 per cent., is a local anæsthetic if applied to the mucous membrane; but that it has no action whatever on the unbroken skin. In operations upon the nose and the throat, I have used the drug with great success and satisfaction, so much so that now I can perform operations for the removal of hypertrophies or bony excrescences, without pain to the patient, where formerly I was obliged to employ ether or chloroform, and to suffer the attending loss of time and annoyance incident to the use of a general anæsthetic.

"The manner in which I use cocaine is to saturate a piece of cotton with the 4 per cent. solution, and introduce it into the nose, where I allow it to rest in contact with the mucous membrane, at the seat of the intended operation for five or ten minutes. I never employ the spray or instillation, because either of these methods causes absorption of the drug and the consequent systemic effect of cocaine-poisoning, which are frequently spoken of in the medical journals. The nasal mucous membrane, not being an absorbing surface, allows the cocaine to act purely as a local anæsthetic, and no fear need be entertained of any toxic effects being produced. I frequently use cocaine as a diagnostic aid in order to determine whether a swelling in the nose is a genuine hypertrophy, or whether it is merely a tumefaction, due to an acute inflammation. In the former instance the swelling will not be reduced in size, while in the latter case it will entirely disappear under the influence of the drug."

Dr. George E de Schweinitz: "Since the discovery of cocaine the vast majority of operations connected with ophthalmic surgery are performed without the use of general anæsthesia, and there is probably no branch of surgery in which this drug has a more useful application. It does not retard the process of healing after operation, and if properly employed rarely causes toxic effects. In addition to its power of benumbing sensation, through its influence on the peripheral trigeminal fibres, it probably possesses the property of constricting the blood-vessels and reducing intraocular tension. Under its influence there is some drying of the epithelium of the cornea, hence it is advisable not to use it for too long a period before an operation, or, if it is used, that the lids be kept closed until the moment of the operation. There are few contraindications to its use, and even in glaucoma, with the possible exception of advanced chronic types of this disorder, it may be instilled into the eye preparatory to operation. The use of cocaine as a collyrium in inflammatory diseases of the cornea and conjunctiva probably does not belong to your subject, but I cannot resist the temptation of saying that its employment in these forms of inflammatory disease is often a distinct disadvantage to the patient. It is true temporary relief by the production of local anæsthesia ensues, but very often corneal ulceration will be markedly aggravated, especially by prolonged use, and its injudicious application in these cases should be deprecated. This does not refer to the production of temporary anæsthesia in those cases of corneal disease where it is necessary to employ the actual cautery, the curette, paracentesis, or similar operations. Neither would it be contraindicated as a single application for the purpose of examination, or for temporarily controlling congestion, in order that such examination might be more thoroughly made. The occasional reports which have been published in regard to failure of operation on account of cocaine, are probably *post hoc* and not *propter hoc*. It is needless to point out that in every operation a perfectly fresh solution should be used, preferably made in distilled water to which some boracic acid has been added. If the globe of the eye requires operation, the solution is instilled into the conjunctival sac; if an operation upon the lids is needed, better results will be obtained if the area of operation is enclosed in a clamp before the hypodermic injection is given, thus preventing the drug diffusing itself too widely through the loose cellular tissue; if the tendon of a muscle is to be divided, as in tenotomy for strabismus, a drop of the solution should be injected with a pipette into an opening made into the conjunctiva and capsule of Tenon, before the tendon is taken up by the hook preparatory to its separation."

In minor surgery, cocaine, when used hypodermically, is of value in all operations in which the circulation can be temporarily arrested, in order to prevent undue absorption of the drug, and in which free bleeding can be encouraged at the completion of the operation previous to the tying of the sutures, to allow as much of the unabsorbed cocaine to be washed out as is possible. Attention paid to these two essential points will, as a rule, obviate any untoward results from the use of cocaine employed hypodermically for anæsthetic purposes. It is likewise important to make use of freshly-prepared solutions, as otherwise the formation of fungi is liable to occur and the preparation to be spoiled. To prevent this alteration, antiseptic agents are added, the best one being boracic acid, as it is the least irritating. Such a solution usually consists of about 20 grains of cocaine and 10 grains of boracic acid, dissolved in an ounce of distilled water. A preparation of this character has been used by the writer with perfectly satisfactory results, even when it has been over two months old.

A 4 per cent. solution is as strong as need be used for hypodermic injections. The principal advantages in using a solution of no greater strength are, that the anæsthetic property of cocaine can be made to reach to a larger area with a less amount of the drug than is the case when a more concentrated one is employed; and, furthermore, the dilution of the drug renders it less liable to produce toxic symptoms.

When the circulation cannot be controlled, extreme caution must be observed in the use of the drug, especially is this the case when any considerable quantity is required.

In anal work, cocaine is not of much use as a local anæsthetic; when so used it must be emyloyed cautiously. It is of no use in obtunding the pain of fistulous tracts or of fistulæ *in ano.* Toxic symptoms are apt to ensue when the drug is employed in this region. The rich lymphatic and vascular supply of the part probably accounts for this fact.

For the purpose of controlling the circulation, a piece of elastic tubing is to be preferred to a solid ligature, as less damage is done to the soft tissues and more uniform constriction of the part is obtained.

In amputation of fingers and of toes for injury, less pain is occasioned the patient if the primary injections are made through the wound, reserving the punctures through the skin until a later period, when the sensitiveness of this structure may be made use of in determining the degree of anæsthesia produced.

The quantity of cocaine required to produce anæsthesia varies with the operation and its extent; as a rule, for ordinary minor operations, from 25 to 40 minims of a 4 per cent. solution are needed. The length of time necessary for the production of local insensibility under cocaine varies from three to ten minutes.

In genito-urinary surgery cocaine is to be used with more than ordinary care, as it is in this class of cases that the untoward effects of the drug have been most frequently noted. It has been employed successfully to allay excessive irritability of the urethra before the passage of sounds or of bougies: it is important, in such instances, not to allow the solution to remain in contact with the mucous surface more than a few moments, and to subsequently encourage the outflow of any excess.

In the operation for circumcision the anæsthetic action of the drug is prompt and efficacious, but it is important to remember that the circulation must be controlled before the injections are made, and that after the foreskin is removed and the sutures inserted, but not tied, that the ligature employed to regulate the blood-supply is removed and free bleeding allowed, that as much of the drug as possible may be washed out of the system.

For the purpose of preventing the pain incident to the removal of venereal warts, or in the cauterization of venereal sores, the drug is satisfactory.

For slight operations and those easy of performance, such as the extirpation of vascular vegetations at the mouth of the meatus urinarius, the removal of stitches from the vagina, etc., anæsthesia from cocaine is all sufficient. For the vaginal examination of highly nervous and hyperæsthetic women, cocaine, applied to the orifice of the canal, will render comparatively easy an otherwise difficult operation. For the primary repair of the perineum, when an anæsthetic is indicated, a dossil of cotton saturated with a solution of the drug and placed in the wound will serve the desired purpose.

For ophthalmological work, the surgeon finds in cocaine the anæsthetic *par excellence.* In no other department of surgery do we find its use so widespread and its application so entirely satisfactory. While this is true, it must be remembered that, to obtain the best results, it is more essential here than elsewhere to employ a perfectly pure drug in a freshly-prepared solution. Many of the untoward effects ascribed to the use of cocaine in eye surgery are due undoubtedly to the neglect of these two essential points.

All of the operations upon the eyeball may be performed under cocaine anæsthesia, except iridectomy for acute glaucoma and enucleation. Even in the latter instance, according to Dr. Albert G. Heyl, where the patient does not come under the influence of the general anæsthetic, or when it is desirable to shorten the duration of the operation, the instillation of a solution of cocaine enables one to begin it earlier than would otherwise be possible; he, therefore, sees no reason why the drug should not always be used in the operation with this object in view.

Owing to the effect of the drug on the cornea in producing drying of the epithelium, it is essential not to use it too long a period before an operation, and, when it is instilled, that the lids be kept closed until the moment of beginning the same.

In operations upon the ear, nose and throat, cocaine is of great value as a local anæsthetic. It is also of use as a means to render diagnosis of the condition of these parts easier and more certain.

For the purpose of rendering the exploration of the larynx easy, the excision or scarification of the tonsils painless, and to permit the painless removal of pharyngeal neoplasms, elongated uvulæ, etc., cocaine is the anæsthetic indicated.—*Lewis H. Adler, Jr., M.D., in Therapeutic Gazette.*

Foot and Mouth Disease.—Prof. Fröhner, of Berlin, has recently published a paper tending to show that foot-and-mouth disease can be transferred to human beings by means of the milk of cows suffering from it, or by means of butter made from such milk.—*Boston Medical and Surgical Journal.*

CURRENT NOTES.

THE MUSCIMETRIC METHOD FOR DETERMINING SUGAR IN DIABETIC URINE.—We find a correspondence in the *American Druggist* signed Koehler, Physiologist, as follows: "Prepare a 1 per cent. solution of grape sugar in healthy urine, pour it on a soup-plate; on another plate pour an equal volume of diabetic urine: evaporate both to a syrupy consistence, then expose both plates in a place where there are flies. After ten or fifteen minutes count the flies on each plate, divide the number on the diabetic urine by the number on the grape sugar solution, which will give the percentage.

THE GREAT CHARLESTON EARTHQUAKE.—The history of the Charleston earthquake is written by the United States Geological Survey, and will be the standard of the scientific observations of the great calamity for years to come, and those interested had better see to it and get a copy of the report. Here are some of the facts to be noted: The velocity of the earth-wave was somewhat over three miles a second. This velocity is much greater than has been observed in other earthquakes, and there is every reason to believe that the accuracy of the deduction from such a large number of observations substantiates this report by Captain Dutton, the officer in charge, and shows that the previous observations in other countries lack the same accuracy. The seat of the disturbance is estimated to have been 12 miles in the bowels of the earth. Four thousand chimneys were overturned in Charleston, and 5,000 buildings more or less injured, the money value in all amounting to between $5,000,000 and $6,000,000. There was nothing whatever of a volcanic character in the disturbance; the craterlets were formed by the water gushing up from sandy layers at a little depth. A visitor would not fail to observe that the earthquake disaster has been entirely overcome at Charleston, and that decided benefits were the outcome.

AMERICAN MEN OF EMINENCE.—In these days of abundant illustrations in all the departments of trade and literature, when one's office table is strewn with illuminated dodgers, ornamental blotters, emblazoned paper-weights, fancy paper-cutters, decorated tapemeasures, pocket mirrors, etc., etc., our attention is not so quickly arrested by something good in these many trade efforts. The Arlington Chemical Company have given us portraits of six eminent Americans, which can be utilized as office decorations without being marred by the inseparable trade advice—"Everybody takes Smith's compound," etc. These portraits are tinted and very striking and pleasing in effect. Especially will that of Dr. J. Marion Sims be prized by physicians and the publishers authorized us to say that any physician can obtain the set by sending his address to the Arlington Chemical Company, Yonkers, N. Y. This Company has greatly improved its "Liquid Peptonoids," making one or two new combinations, especially one of cocoa, which is increasing in popularity with physicians everywhere.

FUNCTION OF THE TUBER CINEREUM.—Dr. Ott (*Journal of Nervous and Mental Disease*, July, 1891) has two short papers on the function of the tuber cinereum. He believes that the thermotaxic and what is termed the "thermopolypnœic" centre are one and the same, and are situated at the anterior end of the third ventricle A rabbit was heated to produce polypnœa; the skull was opened and the tuber cinereum was damaged. It was always found that polypnœa ceased when this was done, but not by any experiment in which it was uninjured. Ott also concluded that it had thermotaxic functions. He found that puncture of the anterior end of the optic thalami must break the tuber cinereum to cause a rise of temperature. He considers it established that the thermogenetic centres are the caudate nucleus, and according to Hale White the grey matter of the septum lucidum and the grey matter in front of and beneath the caudate nucleus. Ott believes that there are thermo-inhibitory centres about the concrete and Sylvian fissures and polypnœic centres in the tuber cinereum.—*Supplement to the British Medical Journal.*

CONTAGIOUSNESS OF COMMON WARTS.—Dr. Payne (*Brit. Jour. of Derm.*, June, 1891, p. 186) relates that after using his thumbnail to remove softened warts, three warts developed on his thumb, confirming him in a view which he had entertained on other evidence that the popular belief in the contagiousness of warts is well founded.—*Sup. Brit. Med.*

Messrs. J. B. Lippincott Company announce that they will publish, about September 1st, the eighth edition of Wood's Therapeutics: its Principles and Practice; rearranged, rewritten and enlarged. In the present edition no revolutionary changes have been made comparable to those of the seventh revision, but great care has been exercised to see that every portion of the work has been thoroughly revised, and a number of the articles have been completely rewritten, while some new drugs have been noticed.

MEETING OF THE ELECTRO THERAPEUTIC ASSOCIATION.—The American Electro-Therapeutic Association will hold its first annual meeting at the Hall of the College of Physicians, corner Locust and Thirteenth streets, Philadelphia, Pa, Thursday, Friday and Saturday, September 24th, 25th and 26th, 1891, under the Presidency of Dr. G. Betton Massey. Physicians interested in the discussion of electricity in medicine, are invited to attend without further notice. (Signed) HORATIO R. BIGELOW, M.D., Chairman Executive Council; WM. H. WALLING, M.D., Secretary, 2005 Arch Street, Philadelphia.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.—This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is required is for the applicant to write to the Treasurer of the Association. Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own Society, signed by the President and Secretary of said Society, with five dollars for annual dues. Attendance as a delegate at an annual meeting of the Association is not necessary in order to obtain membership. On receipt of the above amount the weekly Journal of the Association will be forwarded regularly.

STUDYING FOOD-FISHES AT THE OCEAN-SIDE.—The erection of a biological laboratory at the ocean-side for the study of the food-fishes, which form so important a part of the food of the people is a growing necessity. We clip a paragraph from a pamphlet which we give below: "The University Marine Biological Association of the University of Pennsylvania was founded for the purpose of establishing and maintaining laboratories and aquaria on the coast of the United States, where accurate researches may be carried on, leading to the improvement of the biological sciences, and especially to an increase of our knowledge as regards the food, life, conditions and habits of American food-fishes and Molluscs and for stimulating public interest in these matters. The importance of possessing sea-side laboratories at which the working naturalists of the country, the teachers in schools and colleges, the patient investigators in pure science, the government experts and others could secure a practical acquaintance with the structure and habits of marine animals, has long been appreciated in Europe." We know that a practical effort is being made to establish a summer laboratory in North Carolina, and this will probably be done next summer, but we want a laboratory winter and summer, that we may meet now the special demand for knowledge of cultivation of oysters.

A Law for the Prevention of Blindness.—Following the example of the State of New York, where a similar law was passed in 1890, the State of Maine has passed the following law, which was approved by the Governor on March 28th : Section 1. Should one or both eyes of an infant become reddened or inflamed at any time within four weeks after its birth, it shall be the duty of the midwife, nurse or person having charge of said infant to report the condition of the eyes at once to some legally qualified practitioner of medicine of the city, town or district in which the parents of the child reside. Sec. 2. Any failure to comply with the provisions of this act shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months, or both. Sec. 3. This act shall take effect on the first day of June, eighteen hundred and ninety-one."

Butter and Oleomargarine.—The *Medical and Surgical Reporter* gives the following ready test for differentiating these substances : Dissolve 25 parts of silver nitrate in 100 parts of alcohol of 95°. Put some of this solution in a test-tube, and melt and add a portion of the material to be tested. Agitate for a few moments, and let stand. Pure butter retains its natural color, while the margarine will become a dirty brick red, the color of a mixed sample depending upon the quantity of the adulterant present therein. The test is said to be sufficiently delicate to detect five per cent. of margarine, while with ten per cent. the color reaction is very strong.—*Bost. Med. and Surg. Jour.*

DEATH OF AN UNBELIEVER.—A wealthy lady died recently in the south of France, at the age of 83, so says the *Lynn Médical*, and in her will left to her physician, in "gratitude for his intelligent and devoted care which had enabled her to reach such a ripe old age," everything he would find in her cabinet. When this was opened its only contents were found to be the untouched mixtures, boxes of pills, and other medicaments (still enveloped in paper as they had been sent by the druggist) which had been prescribed for the defunct by her medical attendant during the past ten years.—*Medical Record.*

ADVICE TO A YOUNG PHYSICIAN.—The following letter, written eighty years ago by Dr. Benjamin Rush, applies so well to present conditions, and is so full of sound advice, that we publish it here:

"PHILADELPHIA, April 21, 1812.

"*Dear Sir:*—The facility with which a medical education is acquired in our country has multiplied physicians to such a degree that I do not know of a spot in the United States in which you would fix yourself with more advantage than in the one you now occupy. Competition and slow pay are now the conditions of a medical life everywhere. My advice to you is to remain where you are; you will grow with the growth of the settlement. Purchase upon credit, if possible, a small farm; a little debt will make you industrious and furnish you with an excuse to send in your bills as soon as your patients recover. Employ the leisure which a healthy season will give you in agricultural labors; the more you will obtain in this way the more independent you will be of your patients, and, of course, the more you will be courted by them. Happiness does not consist in wealth. A competence, books, alternate labor and ease, to use the words of the poet Thomson, a good wife, a few friends, vicinity to a church, and conduct regulated by the principles of the Gospel, constitute the sum total of all the happiness this world is capable of giving, and these may all be possessed and enjoyed in your present situation.

"From, dear Doctor, yours truly and affectionately,

"BENJ. J. RUSH.

"TO DR. PETRIKEN."

—*Medical Record.*

Little Rosanna Lynch, daughter of Mr. John Lynch, was bitten by a piece of a snake (a water rattle) on Friday at little Salem Church, in Florence county. The people in the community were cleaning off the church yards preparatory for a protracted meeting. Mr. Lynch found the snake and cut it in two and threw it out of the way, but unfortunately his little daughter, about 7 years old, accidentally stepped on the head part and was bitten on the foot near the heel and died that night.—*Charleston News and Courier.*

Tri-State Medical Association.—The third annual meeting of the Tri-State Medical Association will convene in Turner Hall, Chattanooga, Tenn., Tuesday, October 27th, 1891, and continue in session three days. Indications are that it will be one of the largest medical meetings ever held in the South. Representative physicians from all sections will be present. All who desire to read papers should send title to the Secretary of the Association before September 1st. In due time a circular will be issued, giving a complete list of all papers and names of exhibitors who apply for space before October 1st. W. L. Gahagan, Sec. Ex. Com.

P. O. Box 542, Chattanooga, Tenn.

A Very Dangerous Impurity in Phenacetin.—Dr. C. O. Curtman, of St. Louis, a few days ago received a letter from Dr. Ludwig Reuter, of Heitzerberg (communicated to the *Weekly Medical Review*, May 16th), announcing a very dangerous impurity of phenacetine—a residuum in the process of its manufacture by the Baker Color Works. In its manufacture phenacetine has to pass through the stage of *paraphenacitinide*, which is a very powerful poison. It is the result of imperfect conversion into phenacetine by means of acetic acid, which completes the process. It is easily discovered by placing a small quantity of chloral hydrate in a test tube, melting it at the heat of boiling water, and then adding one-fifth of phenacetine to it. *If it is pure*, the mixture will remain colorless, forming a diffused mass. *If it is impure*—if it is phenacitinide, it will become of a purple color, passing from red into blue within a very short time—a half minute. In a number of instances recently treated in Heitzerberg, this impurity was found in the phenacetine prescribed—producing inflammation of the kidneys, many cases being very severe.—*Virg. Med. Monthly.*

THE SENSE OF TASTE IN THE LARYNX.—For many years it has been known to histologists that the specific end-organs of taste, namely, the taste-bulbs, occur on the posterior or inner surface of the epiglottis, but up till now the physiological proof of the existence of the sense of taste in the epiglottis has not been forthcoming. P. Michelson (*Virchow's Archiv.* [12], iii, 3, p. 389, 1891), under Langendorff's direction, made a number of experiments, which show that the inner surface of the epiglottis is endowed with taste. A. Schroetter's laryngeal sound tipped with a solution of quinine or saccharin, was introduced into the larynx, and the drop of the sapid substance was cautiously brought into contact with the inner surface of the epiglottis. Positive results were obtained, which were controlled by the sensation—electrical taste—known to be produced by electrical stimulation. It seems, therefore, proved that a part of the nerve fibres passing to the larynx are nerves of taste.—*Sup. to Brit. Med.*

READING NOTICES.

Happy and content is a home with "The Rochester;" a lamp with the light of the morning.
For catalogue, write Rochester Lamp Co. New York.

A STRIKING FEATURE of the new advertisement of the Maltine Manufacturing Company in this issue of the JOURNAL is the design of a Maltese cross. It is something of a play on the word "Maltine" and that the Crusaders of the Middle Ages vanquished the followers of the Crescent; this cross was also adopted as the emblem by the Hospitalers of the Order of the Knights of St. John of Jerusalem, who were among the first founders of institutions established for the amelioration of the physical ills of mankind. After their occupation of the island of Malta, which they held for centuries against the assaults of the Infidel, this symbol came to be known as the Maltese Cross. It is emblematical of the success of merit, of practical benefit to mankind, and of ability to resist attack.

The appropriateness of the use of this design is apparent to any physician who has had occasion to use these valuable preparations.

SYR. HYPOPHOS. CO., FELLOWS

Contains the Essential Elements of the Animal Organization—Potash and Lime.

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The Tonics—Quinine and Strychnine;

And the Vitalizing Constituent—Phosphorus; the whole combined in the form of a Syrup, with a **Slightly Alkaline Reaction.**

It Differs in its Effects from all Analogous Preparations; and it possesses the important properties of being pleasant to the taste, easily borne by the stomach, and harmless under prolonged use.

It has Gained a Wide Reputation, particularly in the treatment of Pulmonary Tuberculosis, Chronic Bronchitis, and other affections of the respiratory organs. It has also been employed with much success in various nervous and debilitating diseases

Its Curative Power is largely attributable to its stimulant, tonic, and nutritive properties, by means of which the energy of the system is recruited.

Its action is Prompt; it stimulates the appetite and the digestion, it promotes assimilation, and it enters directly into the circulation with the food products.

The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; *hence the preparation is of great value in the treatment of mental and nervous affections.* From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

NOTICE—CAUTION.

The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, **finds that no two of them are identical,** and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, **in the property of retaining the strychnine in solution,** and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. **Fellows.**"

As a further precaution, it is advisible that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

Medical Letters may be addressed to:

Mr. FELLOWS, 48 Vesey Street, New York.

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Prof. of Practical Chemistry to Pharmaceutical Society of Great Britain.

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NORTH CAROLINA
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ORIGINAL COMMUNICATIONS.

SOME OF THE ACCIDENTS MET WITH IN LABOR AND THEIR PREVENTION AND TREATMENT.

By W. P. Whittington, M.D., Asheville, N. C.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

It is a lamentable fact that the opinion is abroad among the common people, and prevails to a considerable extent in the profession, that but little knowledge and less skill is acquired in the practice of midwifery. Hence we find all over the country and in our most populous and enlightened cities, men and women practicing midwifery who do not know or understand the primary principles of obstetrics. It is no wonder, then, that the field of the gynæcologist is full and the harvest abundant.

Parturition is a process of nature, and there is some truth in the old adage that "Meddlesome midwifery is dangerous." All interference with natural labor might be considered meddlesome, therefore we see how important it is that the accoucheur should be well prepared to fill the important position so that he might know when to interfere and when to let nature have its course But when we consider the many deviations from the natural course, even in apparently natural labors, we are more forcibly impressed with the demand for educated midwives and a better preparation of the physicians in this branch of practice.

In the present (nineteenth century) a period far advanced in female folly and fashion, when the plan of nature is preverted by tight lacing and many other things detrimental to the thorough development of the perfect woman, we find many irregularities in what would otherwise have been natural labor. Two of the most common accidents that occur in so-called natural labor are laceration of the cervix uteri and laceration of the perinæum down to, and occasionally through, the sphincter ani. These accidents happen much oftener than many of our physicians are aware of. I have myself examined and treated numbers of ladies who had lacerations of the cervix and had been treated by other and older physicians who had failed to discover that they had these lacerations. These physicians, either from carelessness or ignorance, failed to recognize what was really a very plain condition. The country is also full of ladies suffering from year to year with lacerated perinæums, who have been taught that the injury is no more than every woman must have who has borne children. There are two reasons why this is so : It is either on account of carelessness of otherwise competent physicians, who do not examine the patient after delivery, and therefore do not recognize that there is an injury; or, secondly, on account of inability to repair, and therefore assumed ignorance or indifference on the part of the physician. While lacerations of cervix and perinæum will occur in some cases, in spite of the best management, it is very evident where the doctor sees his patient in the early part of the labor, he can, by proper care and management, prevent nine-tenths of the lacerations that do occur. The question of importance, then, is how to prevent these lacerations.

Lacerations of the cervix are due to an unyielding condition of the muscular fibres of the cervix or to unnaturally strong contractions of the muscles of the fundus and body of the womb, aided by muscular effort and bearing down on the part of the patient. We should instruct the patient not to make any attempt to advance the first stage, but to resist any bearing-down or straining effort as much as possible. If the contractions are unusually strong and often and the os unyielding, use anæsthetics. Of these, morphia, chloral hydrate and belladonna are the best. A full dose of morphia hypodermically will often render strong, ineffectual pains milder and more effectual. Chloral hydrate in 30-grain doses per rectum, repeated in one hour or less, is often of much benefit. Fluid extract of belladonna, given until the pupils are dilated, or the solid extract smeared over and around the os are recommended, but it is more effectual and less dangerous by the mouth, in small doses often repeated, or one full dose may be given at once. If small doses are used, they should be suspended as soon as the pupil begins to dilate. Abundant vaginal douches of very warm water will sometimes aid the dilation of a rigid os, and usually render the perinæum more flexible and yielding.

If careful attention was given to the above suggestions I am sure there would be a great many less lacerated wounds, and consequently much less suffering among the women of the present day. In the management of the second stage of labor our physicians and midwives are guilty of some of the same mistakes as in the first. The busy practitioner who is overworked and pushed for time to fill engagements already made, is too apt to become impatient and give a dose of ergot, make pressure over the fundus and encourage the patient to bear down with all her might, and failing to properly conduct the head through the vulva the perinæum is ruptured.

As I have before stated, lacerations will occur, but a large majority should be prevented by proper management. When the labor is extraordinarily hard and likely to be precipitate, the patient should be encouraged to resist the bearing-down tendency as much as possible, and not allowed to grasp anything with the hands at all. Where the perinæum is hard and unyielding, cloths wrung out of hot water and applied continuously will render it soft and more yielding.

It is in the second stage of labor that chloroform plays so important a part, not only in preventing lacerations of the perinæum, but in lessening the suffering of the patient. In the early part of the second stage chloroform should be used only during the pains; but later, as the head is emerging through the vulva, it should be pushed to such an extent as to suspend all violent efforts on the part of the patient and allow the head to be expelled by the natural contractions of the uterus as far as possible. Antipyrine and cocaine have been used lately to relieve the suffering during the second stage, but on account of the large size of the dose and the derangement of the stomach antipyrine has been abandoned.

Cocaine may be applied to the mucous membrane of the vagina on pledgets of cotton or injected under the labia, but is not equal to chloroform, which should always be used where there is no contraindication.

Besides the means already mentioned, much can be done by properly supporting the perinæum and restraining the progress of the head until the parts are properly prepared for its exit.

This, I think, is best performed by letting the soft ulnar part of the hand rest over the perinæum and the thumb and index-finger rest on the head as it protrudes through the vulva. We can thus give the head any forward motion necessary to utilize all the space under the pubes, and at the same time restrain it and prevent its expulsion during the acme of the pain.

After the termination of the third stage a careful examination of the vulva should be made, and if there is a laceration of any extent it should be repaired at once, unless the patient is very much exhausted, when it may be delayed a few hours. I will not take time to discuss the various methods of repairing the perinæum, for a little mechanical skill with a correct knowledge of the anatomy of the parts, will be a sufficient guide to a successful operation. Silk, silver, or catgut may be used. The continuous catgut suture has been used very successfully by several surgeons during the last year. Two or three interrupted stitches with silk, if the knees are kept together, will usually secure the restoration of all incomplete lacerations. Those extending through the sphincter ani of course require more skill and care in their treatment.

Beside the accidents already referred to the obstetrician will meet with more serious conditions occurring in mal-presentations, faulty positions, placenta prævia, extra uterine pregnancy, post-partum hemorrhage, etc., which require cool, courageous and prompt action, and are too numerous and of too much importance for discussion in a paper like this.

In the treatment of extra uterine pregnancy by electricity Drs. Janvrin, Bache Emmett and C. C. Lee, report cases of expulsion of the fœtus by the uterus in tubal pregnancies after the application of the galvanic current. In post-partum hemorrhage the use of iodoform gauze as a tampon for the uterus has grown very popular during the last year.

In conclusion, I wish to say that in the practice of obstetrics the application of the aseptic and antiseptic methods are of as much importance as in surgery. In the application of the first we would suggest plenty of good soap and hot water, well applied to doctor's instruments and patient. In the second we may use carbolic acid bichloride, salicylic and boracic acids, etc., as the nature of the case demands.

24 Montford Ave., Asheville, N. C.

PAREGORIC BY INHALATION IN CHRONIC LARYNGITIS.—A lady patient, the wife of a physician, gives us a valuable practical suggestion as to the use of paregoric by inhalation. It was prescribed by her husband for the relief of a chronic laryngitis which followed an attack of grip, and it succeeded better than eucalyptus oil. The easy volatility of benzoic acid, camphor and oil of anise, the two first soothing to the air passages, suggests the ground of its usefulness.

THE BIRTH-DAY (SOUVENIR) NUMBER OF THE NEW ENGLAND MEDICAL MONTHLY.—Our enterprising contemporary of the New England Medical Monthly has converted the last issue into a veritable Medical Portrait Gallery in honor of having reached its first decade. There are more than 60 full page portraits in varying excellence as to technique—steel, wood, process, photogravure—a number worthy of preservation. We congratulate Dr. Wile on this most unique production of the American medical press.

A PLEA FOR THE MORE GENERAL USE OF CHLOROFORM IN NON-OPERATIVE CASES OF LABOR.

By J. Howell Way, M.D., Waynesville, N. C.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

Since that eventful day in the history of our forefather, Adam, when the voice of disobeyed and angered Divinity proclaimed the curse "in sorrow shalt thou bring forth children," and woman mournfully went forth from the enchanted garden to fulfil in pains, supremest anguish, that command, no event of greater importance has occurred in obstetric history in my opinion, than the use of sulphuric ether in annulling the pains of parturition by Sir James Simpson at Edinburgh on January 19th, 1847.[1] And while more than two-score years have passed since then, and the amount of time elapsed, surely sufficient, for the first wild outbursts of enthusiasm, and the inevitable reaction of dissatisfaction with which the much-vaunted claims attendant on the introduction of all new remedies or therapeutic procedures are attended, to have alike subsided, and the true value of anæsthesia in labor established upon a rational basis recognized as such, accepted and practiced by the profession throughout the whole civilized world, it does not seem that such is the case.

Now, as regards the use of anæsthetics in cases of operative midwifery, there is but little, I might say no, divergence of opinion. The indispensability of chloroform or ether in certain cases of version, in craniotomy, and in other of the major operations of midwifery, is at once recognized and readily admitted by medical men in all countries; but when we approach the study of anæsthesia in cases of non-operative obstetrics, we find a variation of opinion and of practice that really seems surprising when it is remembered how long the claims of these agents have been before the profession.

Now, in the presentation of this subject to you to-day, it is impossible, as well as undesirable, that the uses of anæsthesia in labor be treated of minutely, or even in a general way, as regards all of the classes of cases in which it may be of service; but it is the purpose of this paper to specially direct your attention to a brief consideration of anæsthesia in cases of non-operative or natural labor, as they may be termed. I must confess, in the outset, to a forced use of the term natural labor in this connection, because, strictly speaking, I do not believe that many cases of normal or natural labor are met in practice at the present day. The refining and enervating influences of modern civilization are such that the majority of mankind have their existence under abnormal conditions. The more delicate and sensitive organization of woman responds to the impress of these influences in a more marked degree than that of man, hence we reasonably expect, and in practice find, the process of parturition in the civilized female attended with a degree of suffering infinitely far beyond that endured by the women of primitive peoples.[2] So, truthfully speaking, the non-operative or ordinary cases of labor we treat are not cases of natural labor, but cases of labor the subjects of which have, through the influence of environment, heredity, etc, had their nervous systems so modified from the primitive, the natural type, as to render them incapable of undergoing the throes of parturiency with only the pain experienced by the women of primitive peoples.

As determining the extent to which anæsthesia is resorted to in non-operative cases of obstetrics at the present day, permit me to cite the testimony of some of the most authoritative writers on the subject. The scholarly Parvin, writing on this point,[3] after commending the use of anæsthetics, and further indicating the preference of most physicians for chloroform in obstetric practice, and the reasons therefore, says:

"Chloroform has not been generally adopted, nor has it been entirely abandoned in obstetric practice * * * It is certain that the great majority of women in the United States endure the martyrdom of maternity without anæsthesia."

Vernier and Pajot[4] state that—

"In France chloroform has met with great opposition. * * * In Paris, apart from operations for which chloroform is generally used, anæsthetics are not employed except in very rare cases."

Dutertre[5] gives similar testimony relative to the French practice, thus:

"After this long controversy and presentation of observations, the administration of anæsthetics in natural labor is not established in France. It is to-day condemned by the teaching officials of that country."

Reese[6] says:

"In the leading text-books of that country (Germany) anæsthesia is advised for all operations, and under special circumstances, but generally rejected for natural labor."

Lusk[7] gives as his opinion that—

"Few practitioners give themselves the trouble to master the necessary *modus operandi* of the use of anæsthetics to study the limitations of their usefulness or to learn the conditions of their safe administration."

Truly a sweeping charge is this, but one the truthfulness of which I have little doubt the facts will fully sustain!

J. C. Reeve, than whom, I presume, no American since the days of Channing has given the whole subject of artificial anæsthesia, in all its various methods and details, more careful and pains-taking study, or who is better prepared to give an unbiased opinion on this topic, writes[8] as follows:

"And now, it is believed, there is not such a general resort to anæsthetics in natural labor as so great a boon to suffering humanity deserves, or as is consistent with the second great object of the profession—the relief of pain. * * * A good deal of this must be attributed to the very strong conservatism manifested by some of our leading teachers, and still more, perhaps, to a lack on the part of the profession of that careful study so important a subject demands. * * * The general neglect of the method is to be deplored alike in the interests of the profession and of humanity."

The rational use of anæsthetics in labor is based upon a careful study of the physiological effects of such agents and of the natural phenomena of labor. Usually the first effects[9] of a moderate administration of any anæsthetic is an increase in activity of all the bodily functions—in labor often the uterine contractions are also increased in rigor and frequency as well. Following this period of general stimulation comes one of progressive paresis manifesting itself first upon the lower portions of the spinal cord, and gradually extending its influence over the dorsal and cervical portions, and finally, when the anæsthesia is carried to an extreme degree, affecting the centres of the medulla oblongata, with resultant abolition of those reflex actions dependent upon the stability of the basic cerebral centres, respiration and circulation, and death ensues. In surgical practice and operative obstetrics, it is necessary that the use of the anæsthetic be carried to the point of abolishing the functions of all the nerve centres save those at the base of the brain, in which reside the influences controlling the functions of vegetative life. In the use of anæsthetics to annul the pains of parturiency, obstetric anæsthesia, as it is termed, it is very rarely, if ever, necessary, proper or advisable to carry the anæsthesia to the extent necessary for the performance of a surgical operation. A misunderstanding on the part of many physicians as to this point is doubtless responsible for the anguish endured by many a parturient who otherwise would have her pains greatly ameliorated, if not entirely annulled.

Obstetric anæsthesia is one step in anæsthesia; surgical anæsthesia is another step in the same process, but far in advance of the former in its physiological impression as well as in its dangers. In the one the anæsthetic is administered only during the continuance of the pains, and is given only to the extent of annulling the sensibilities so that impressions of pain are but dimly felt. The patient regains her consciousness usually during the intervals or at the beginning of a pain, and at all times, if spoken to loudly, will give some indication of recognition. Yet she is almost, if not entirely, free from those pains which Hodge, with a degree of obstinacy born of a prejudice unworthy the mind of so great an obstetrician, while refusing to give chloroform for their relief, describes the condition of the woman enduring them as being "agonized and semi-delirious."[11]

In the other, or surgical anæsthesia, the administration of the anæsthetic, instead of being an intermittent process and carried only to the point of inducing partial anæsthesia, is a continuous and regularly progressive process carried steadily onward to a definite point, where all of the functions of life, save those of respiration and circulation, are silenced under its deadening influence.

As touching the choice of agents for the induction of obstetric anæsthesia, it is scarcely necessary to mention that almost every argument to be made on the subject is in favor of the use of chloroform as preferable in every way to all other agents. Its small dose, its pleasant odor, the absence of need for any special apparatus for its administration, its non-inflammability, and last, but by no means least, the readiness with which its influence can be controlled, all speak loudly in its favor. Every one familiar with its use in obstetric practice will readily recall how often a single inspiration has relieved, or, as women sometimes express it, "taken the edge off" a pain. Ether has been urged in some quarters as being safer, but there is no evidence whatever to support such a claim. This is probably due to the prejudice existing in a certain section relative to the use of chloroform in surgical practice, and, in all probability, like most of the prejudices the human family possess, has ignorance as a basis.

There have been recorded up to the present time between five and six hundred deaths from chloroform and between one and two hundred from ether in surgical practice. This disparity in numbers of deaths, however, is by no means positive evidence of the lesser danger, even in surgery, of ether, because, when we consider the whole civilized world, and the anæsthetic in use in different countries, it is at once apparent that chloroform is given far more frequently than ether.[12]

Chloroform has now been given in labor hundreds of thousands of times, and I have been able to find in the literature at my command records of only six deaths. Only one of these occurred in the hands of a medical man; the other five were cases where the anæsthetic was either taken by the woman at her own instance, or else given by an ignorant nurse.[14] And in the single recorded case (the Harrison case, in Chicago, in 1881[15]) of death in the hands of a competent medical man, there lacks post-mortem confirmation of the cause of death. There was no autopsy held and the symptoms pointed strongly to embolism of the pulmonary artery, and not to the chloroform, as the cause of death.

The cause of this remarkable immunity of women in child-birth to the influence of chloroform must be sought for, in part, in the intermittent method of its administration, but largely, in my opinion, to the utter and complete absence of any dread of the anæsthetic, the existence of which all surgeons recognize as tending to induce an emotional state which depresses the heart and circulation. The influence of the uterine contraction upon the circulatory system in antagonizing any tendency to cerebral anæmia must also be regarded as of importance, intending to counteract a possible evil effect of chloroform.

When it is remembered that sudden deaths may occur during labor as well as at other times, it is a mater of surprise, as well as of congratulation, that there are not a greater number of sudden deaths during labor where chloroform was administered. While, as with any other drug, personal equation, idiosyncrasy, or other causes, may, and perhaps do, at times, modify the action of chloroform upon the progress of labor, it will, I think, be generally conceded by those familiar with its use in obstetric practice, that the course of labor is not only in no way, as a rule, interfered with, but in many respects materially aided by the use of chloroform. The uterine contractions are usually increased in force and frequency immediately after beginning the inhalation. Occasionally the reverse effect is observed, and rarely to an extent that would demand the withholding altogether of the chloroform, or, as suggested by Sansom,[17] making use of some of the combinations of chloroform with alcohol and ether. After the patient is under the influence of chloroform, given only to the extent of inducing obstetric anæsthesia, I do not believe that it exercises any special influence on uterine contractions, either as tending to increase or diminish their activity. Of course it is to be remembered that, if carried to a degree beyond the limits of obstetric anæsthesia, it will certainly impair the force of uterine contraction.

This is also true as regards the accessory muscles of parturition called into action during the expulsive stage, though with reference to the latter it may be noted that the instances of post-mortem and extra-corporeal delivery of the fœtus amply proves the capacity of the unaided uterus to empty itself.

Upon the os and cervix the beneficial effects of chloroform are well displayed in softening and relaxing them when their rigidity delays the progress of dilatation; but for this porpose, unless there exists some special reason for the use of chloroform, it is preferable to accomplish this result by the agency of chloral, as recommended by Playfair.[18] By inducing a relaxation of the tissues, by preventing those abrupt violent movements made by women in their extreme agony at this time, by lessening, and when carried to a deeper extent, preventing expulsive effort, and thus showing the progress of the head, giving the tissues more time to recede behind it, chloroform is, in the opinion of Reese, more efficient than any other single measure in the prevention of rupture of the perinæum.

As upon various other questions relating to this subject, there has been everything save unanimity of professional opinion as to whether or not the use of chloroform increases the liability to post-partum hæmorrhage. Forty years ago the affirmative view of this question by men like Tyler Smith and Robert Barnes carried great weight with it, and did much to shape a medical sentiment that even we to-day feel the weight and influence of. For it would seem very reasonable, indeed, that an agent which paralyzes sensation and carried a little farther destroys the power of voluntary muscular action, would inevitably arrest that firm muscular contractility so essential in preventing hæmorrhage after delivery. This question as to the relaxing effect of chloroform on the contractility of the uterine muscular fibre immediately after delivery, is, I think, identical with the question of its influence on its contractility prior to its delivery. Its action is determined solely by the amount of and extent to which it is administered. If it be carried only so far as to annul sensation, and near the close of the expulsive stage, to restrain voluntary muscular movements, it will not, it cannot cause post-partum hæmorrhage. But if given to the point of influencing the contractile power of the involuntary, or striated muscular fibre, it will assuredly favor hæmorrhage. Hence it is certainly incumbent upon every physician who administers chloroform in labor to bear this fact in mind, that he mav be cautious in giving no more than is requisite, and guarding against any tendency to hæmorrhage. The duration of labor will not, in ordinary cases, be lengthened by the proper use of chloroform. If given to the extent of rendering inefficient or retarding uterine contractions, it will undoubtedly lengthen the duration of labor, and perhaps necessitate the application of the forceps, as well as predispose to post-partum hæmorrhage. But properly administered by a competent medical man who has carefully studied the *rationale* of its effects, and is thus fully prepared to accomplish the induction of just the extent of anæsthesia desirable and no more, none of these inconveniences and dangers need be feared.

Fordyce Barker, a most excellent authority upon puerperal diseases, in a recent paper[19] writes as follows :

"During the past thirty-seven years I have rarely attended a woman in confinement without the use of chloroform—never when she suffered considerably. Having thus used it in several thousand cases, I unhesitatingly assert that not in a single case have I ever found reason to regret its use. * * * In my private practice I have never had but one case of post-partum hæmorrhage, and in this no anæsthetic had been used, as the child was born within five minutes after I entered the room, before I had time to make any examination, and a terrific flooding followed."

The proper administration of chloroform in labor does not exert any influence upon the child. Upon the puerperium it not only exerts no prejudicial influence, but almost every woman who has been confined without chloroform and at another time with it, will invariably assert that after labor with chloroform she was decidedly less fatigued and more free from muscular soreness and lameness than after a labor without it.

The method of the administration of chloroform is a matter of important consideration and deserving of the most careful study on the part of the physician who essays its use in obstetrics. As has already been shown by the extracts quoted from the writings of some of our most distinguished teachers, a neglect of the necessary study of the method by the rank and file of the profession is doubtless responsible for the fact that the large majority of women suffer, unaided by anæsthesia, the anguish incident to maternity. In an examination of some ten of our most modern text-books on midwifery in my library in only one[20] did I find that thorough and careful consideration, even to the minutest matters of detail, that a subject fraught with so great a power in the relief of suffering woman, deserves at the hands of gentlemen who would write books for our guidance. This defect, I regret, it is not within the power of the present paper to supply, time only permitting notice of some of the more important points.

During the first stage of labor chloroform is not usually indicated until near the close, when the process of dilatation is pretty well complete. An exception to this rule, however, must be made in certain labors of primipara in which the pains are unusually painful, the os dilates slowly, and tired, worn-out, and disheartened at the slow progress made, and the continuance of labor which she had hoped would have been ended hours before, the patient grows very nervous and intolerant of the pains. In cases of this type a few inhalations of chloroform will often exert a most happy effect, both upon the mental and physical condition.

There is also another class of cases where the os is firm, rigid and unyielding in the first stage, and the uterine contractions seemingly productive of little result save that of fatiguing the patient, where chloroform does excellent service.

Generally speaking, chloroform is to be reserved until dilatation is nearly or quite completed and expulsive pains set in, both of the above classes of cases usually responding readily to chloral, which is the preferable agent at this time and for this purpose. A small cup shaped sponge, easily carried in the obstetric bag, and when wanted for use dipped in hot water and squeezed as dry as possible, and a handkerchief closely wrapped around it, leaving the concave side exposed, constitutes perhaps the best arrangement for the convenient, safe and economical administration of chloroform. The anæsthetic should preferably be in a bottle permitting the escape of only small quantities at a time. Regard for the temperature of the room should be had in its administration, the physical fact being borne in mind that an increase in temperature of 20° F. doubles the chloroform-containing capacity of a given bulk of air. At the onset of a pain fifteen or twenty drops should be dropped upon the sponge, it being squeezed together to insure its general diffusion through its texture, and then held in front of the patient's nose. During the continuance of the pain it is inhaled freely; as soon as it dies away it should be withdrawn until the next pain comes on. With each pain chloroform is inhaled, always taking care to discontinue it between the pains, so that the effect, until the head lies low in the perinæum, shall always largely die away during the intervals between pains. Close attention, scrupulous care and a nice discrimination are to be exercised by the administrator at all times, that he does not cause the patient to inhale an unnecessary amount, and thus cause this two-edged sword to cut for evil instead of good. The effect of the anæsthetic upon the patient's uterine contractions, their force, frequency and regularity, upon the respiration and circulation, the extent to which relief from pain is afforded, and her general condition as well are all matters of detail to be carefully looked after as the case progresses—now diminishing, again withholding altogether for a short time the use of the anæsthetic, never carrying its influence so far as to suspend consciousness until just as the head is being born, when it will often be advisable to give it to the extent of completely destroying consciousness and all perception of pain. After the birth of the head the administration of the anæsthetic should cease.

No assistant is necessary in using chloroform in ordinary cases of labor, though when the amount of fatigue its careful administration entails upon the physician is considered, he who uses it frequently will almost wish an assistant was deemed essential, as its use renders the duties of the medical attendant much more exacting and tiresome than in cases where no anæsthetic is given.

As regards the contraindications to the use of chloroform in labor it may be stated in general terms that the same principles guiding us in its surgical use should also in a measure influence us here. Organic disease of the brain is of course rarely met with in parturient women. Likewise advanced or serious disease of the pulmonary tissues are not very frequently met with in connection with labor, and even when seen I feel sure the suffering and exhaustion incident to labor without chloroform would be a far greater tax on the patient's vital organization than would follow the careful administration of an anæsthetic. Functional disorders, either of brain, lungs or heart, are not to be considered contraindications. Organic diseases of the heart, unlike those of the brain and lungs, are not infrequently met with in obstetric cases. Yet, of the various types of organic heart disease, fatty degeneration alone contraindicates the use of chloroform; practically, the diagnosis of this condition must necessarily only be presumptive, hence the cases where this point will demand consideration are very rare indeed, and even if strongly suspected to be present, it would be safer, after having conveyed to some of the patient's family, as would be advisable in all cases where any organic disease is present and chloroform is given, a knowledge of the patient's condition, to carefully proceed with the anesthetic.

Upon the question of the use of chloroform in labor cases complicated by organic heart lesions there is possibly more unanimity of professional opinion than upon almost any other question bearing upon the subject. McDonald, who has devoted a volume to the study of organic heart disease in its relations to pregnancy and labor, states[22] that "in almost all the cases of heart disease with labor I have met with, chloroform has been given, and apparently with benefit, during delivery. If carefully administered I think it cannot but be useful in all cases"

Fordyce Barker[23] says that disease of the heart, lungs and kidneys is an additional reason for the use of chloroform in labor, believing that the vital powers are saved rather than exhausted by the anesthetic.

Pasim[24] does not regard organic lesions of the heart as necessarily contraindicating the use of chloroform in labor. As regards kidney affections, the great value of chloroform in puerperal eclampsia would be, I think, sufficient evidence that renal disease is no contraindication to its use in labor. Upon the whole, given a woman in labor suffering great pain, there are no circumstances that ought to prevent her having her pains assuaged by the careful administration of chloroform if she desires it. And while I would not seek to inculcate the dogma that every woman in labor must have chloroform given her, it is my honest conviction that in the rank and file of the profession living in the smaller towns and in the country, we do not resort to its use with that frequency which a careful and studious consideration of its merits and a conscientious desire to alleviate unnecessary human suffering would warrant our doing. Every case of labor does not demand it. There are some women, more particularly in the lower walks of life, where muscle and bone predominate over men, in whom the process of parturition is attended with more effort than pain, some others whose labors are of very brief duration, and a very few others who seem to suffer very little in labor; in these cases the use of chloroform may be very properly omitted. However, in the vast majority of women when enduring the anguish, as Mrs. Browning has touchingly described it, of

"The hour
When the vail of the body we feel
Rent round us, while torments reveal
The motherhood's advent in power,"

those agonizing pains should ever be, in my opinion, alleviated by the administration of chloroform, feeling sure in the careful use of it there lies no danger, and that we are doing all that lies in our power to relieve the distress of a class of our patients, more appreciative and grateful for relief afforded than all others, who, for peculiar reasons, appeal most strongly for relief to our chivalrous, as well as our professional, sense of duty.

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1. Posthumous works of Sir James Simpson, Vol. II.

2. Labor Among Primitive Peoples—Engelman.

3. Science and Art of Obstetrics—Pasim; second edition.

4. Hand-Book of Obstetrics—Verrier and Pajot; English translation by Partridge.

5. *De l'emploi du chloroforme dans les Accouchements Naturels.* Dutertre (quoted by Reese, Am. Syst. Obst.)

6. Am. Syst. of Obstetrics; article on "Anesthesia in Labor," by Reese.

7. Treatise on Obstetrics—Lusk.

8. Reese, *op. cit.*

9. Artificial Anesthesia and Anesthetics—Leyman.

10. Simpson, *op. cit.*

11. Principles and Practice of Obstetrics—Hodge.

12. Transactions Virginia Medical Society, 1887—Hunter McGuire.

13. Reference Hand-Book of the Medical Sciences; article on "Anesthesia," by J. A. Reese.

14. Leyman, *op. cit.*

15. Leyman, *op. cit.*

16. McGuire, *op. cit.*

17. System of Midwifery—Playfair.

18. Playfair, *op. cit.*

19. Transactions New York State Medical Society, 1887—Baker.

20. Am. System of Obst—Reese.

21. All authors I have at hand agree upon this point.

22. The Bearings of Chronic Heart Disease upon Pregnancy, etc.—McDonald.

23. Bulletin New York Academy of Medicine; quoted by Reese, *op. cit.*

24. Pasim, *op. cit.;* quoted by Reese.

JAMES HENDERSON DICKSON, A.M., M.D.

[Biographical Sketch with Portrait.]

The month of September, 1862, was one of great calamity to Wilmington. The alarming forebodings of the visitation of yellow fever in a pestilential form had ripened into a certainty. Depleted of her young and active men, there was only a military garrison in occupation, and when the presence of fever was announced the soldiers were removed to a safer locality. The country people taking a panic at the news of the presence of the fever no longer sent in their supplies. The town was deserted, its silence only broken by the occasional pedestrian bound on errands of mercy to the sick, or the rumbling of the rude funeral cart. The blockade was being maintained with increased rigor. The only newspaper then published was the *Daily Journal*, under the editorship of James Fulton, and its issues were maintained under the greatest difficulties, owing to scarcity of paper and sickness among the printers. All eyes were turned anxiously toward the physicians and those in authority for help. To all of the resident physicians the disease was a new one, not one in the number had ever seen a case of yellow fever, and among them were men of large experience. The municipal authorities recognized their helplessness; the town was neglected, for it had been overcrowded with soldiers and visitors since the early days of the spring of 1861. The black pall of smoke from the burning tar-barrels added solemnity to the deadly silence of the streets; designed to purify the air and mitigate the pestilence, they seemed more like fuliginous clouds of ominous portent, designed as a sombre emblem of mourning. Panic, distress, mute despair, want, had fallen upon a population then strained to its utmost with the bleeding columns of its regiments dyeing the hills of Maryland with their blood, until the whole air was filled with the wail of the widow and orphan, and the dead could no longer be honored with the last tribute of respect.

The Wilmington *Daily Journal* of September 29th, 1862, gave all its available editorial space to chronicle for the first time the character of the epidemic, and in a few brief words to notice the death of some of the more prominent citizens. One paragraph in the simple editorial notice ran as follows: "Dr. James H. Dickson, a physician of the highest character and standing died here on Sunday morning of yellow fever. Dr. Dickson's death is a great loss to the profession and to the community." Close by, in another column, from the pen of the acting Adjutant Lt. VanBokkelen, of the 3d N. C Infantry, numbering so many gallant souls of the young men of Wilmington, was the list of the killed and wounded from the bloody field of Sharpsburg.

Distressed and bereaved by this new weight of sorrow, Wilmington sat in the mournful habiliments of widowhood, striving amidst the immensity of the struggle, to make her courageous voice heard above all the din of war to nerve the brave hearts who stood as a girdle of steel before beleaguered Richmond.

James Fulton, the well-known editor of the *Journal*, the wary politician and the cautious editor, striving on the one hand to keep the worst from the world lest the enemy might use it to our disadvantage, often ruthlessly suppressed from his limited space such matters as in these days of historical research might be of the greatest service. There were two predominant topics which eclipsed all the impending sorrow and distress—foreign intervention, to bring about a peace on honorable terms, and warnings to the State government of the inadequacy of the defense of Wilmington harbor against the enemy. The former topic was discussed with unvarying pleasure. The horizon of the future was aglow with the rosy dreams of mandates from the English and French governments which would bring independence to the Confederacy and peace and quietness to the numerous homes from the sea to the mountains, where sorrow and death had hung like a pall. It is not strange, therefore, that the few publications that had survived the scarcity of printing material, should have contained so little of biographical matter. Comrades dropped on the right and the left, but the lines were closed up, the hurried tear wiped away, and the line pushed steadily forward. The distinguished physician, or general, or jurist, as well as the humble private, got his passing notice in the meagre letters which a chance correspondent sent to one of the few newspapers, and in a short time he was forgotten in the fresh calamity of the day.

We come to our task, therefore, of sketching the biography of Dr. Dickson, with a sense of the meagerness of the materials which are needed to do justice to his memory, but with deep respect and veneration for him who, as citizen, scholar, physician and patriot, has left his lasting impress upon his native town.

James Henderson Dickson was the son of James Dickson, a commission merchant of Wilmington. He was born in Wilmington December, 1806. At the very early age of 12 or 13 he was entered at the University as a student, graduating with distinction in the class of 1823, when he was only 16 or 17 years of age.

Having made choice of the medical profession, he became a student in the office of Dr Armand J. deRosset, the senior doctor of that name, and the oldest physician in Wilmington The office education of a student of that day was not only that of reading through the course, but of learning by laborious practice the art of pharmacy, which included all the manipulations from pulverizing the crude drug to the completion of the galenical compounds.

He attended lectures at the Medical Department of Columbia College, New York, now the College of Physicians and Surgeons, graduating before he reached his majority, in 1827.

He began the practice of medicine at South Washington, but removed to Fayetteville sometime in 1827, where he practiced until 1837. During his residence in Fayetteville he cultivated a decided talent for surgery, particularly aspiring to those operations in which there had been but few exploits before his day, except by the more distinguished teachers. Among them may be mentioned an operation of direct transfusion (in 1833) from the arm of one sister to another, thereby saving her life.* The other operation was more notable, being one of the earliest of the orthopedic operations, before there was ever a science of orthopedy, it was a tenotomy for

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*At the early date of 1833 there are but few successful cases of transfusion of blood. One by Bickersteth; one by G. G. Bird, *Midland Medical and Surgical Reporter*, Worcester, 1830; one by J. Blundell, *London Lancet*, 1829; one by W. Bingham, *Edinburg Medical and Surgical Journal*, 1827; one by D. Fox, *London Medical and Physiological Journal*, 1827; one by J. Fraser, *Lancet*, 1835; one by J. Howell, *London Lancet*, 1828; one by Waller, *London Medical and Physiological Journal*, 1825; and one in 1826. Seven cases are all that could be gathered from "Index Catalogue Library Surgeon General's Office," and from "Neale's Digest."

a club-foot, in the person of his own brother, Dr. Robt. D Dickson. This operation was done in 1835 *

From Fayetteville he removed to New York City, where for four years he practiced, returning to his native home in 1841 at the solicitation of his father, whose health was then declining. Shortly after his return to Wilmington he entered into the practice of medicine with Dr Louis J. Poisson ; the latter gentleman dying in 1842, a large practice at once devolved upon him, increasing steadily to the end of his career.

In 1845 he married Miss Margaret Owen, the daughter of General James Owen, the first President of the Wilmington & Raleigh Railroad and a member of Congress from the C·pe Fear District in 1817.

Those few friends who knew Dr. Dickson intimately always regretted that his life-work had not been the professor's chair, rather than the routine of general practice. The whole caste of his intellect was that of the profound student, and it was very remarkable to note with what facility he would go from the drudgery of pharmacy to the realms of science and literature. In those days few general practitioners were so well off that they did not have to stand by the hour at the pill tile after a hard day's practice, making up medicines for the messengers they found

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*The operation of subcutaneous tenotomy of the tendo-achillis for club-foot has been believed to have been done by Dr. Dickson for the first time in the United States. The friends of Dr. Detmold have claimed for him the priority, based upon his reports in *American Journal Medical Sciences*, 1838 ; but investigation shows that Dr. Nathan R. Smith, of Baltimore, reported a case of "division of the tendo-achillis for the cure of club-foot, *American Journal Medical Sciences*, 1830 The latter operation even antedates Stromeyers' operations in 1830-1831. He introduced the surgery of club-foot; but his earliest work was in 1838. According to the rules, priority of operation would not be bestowed on Dr. Dickson, as none of his cases were reported. The gentleman upon whom Dr. D. operated in 1835 is now living, himself a physician and the brother of the operator. After all, priority is not so much a ground for professional distinction as the establishment of a principle. The operator whose teaching and practice inculcates new methods that stand the test of experience, whether he be originator or imitator, is truly entitled to the honors. To Delpech we owe the first surgical idea of the treatment of club-foot, and this dates back to 1823, eight years before Stromeyers' publication.

waiting for their return from their rounds. The druggist had not then become the scientific helper of the people and the doctor, and hours of laborious work were spent in pharmaceutical manipulations, that the present generation of physicians know nothing about. The writer has seen him many times stand in his office, book in hand, snatching a half hour with a favorite author in the lull of his busy rounds. Studiousness and the habit of concentrated thought were such marked characteristics that he passed with the general public, and even with some of his patients, as a man of coldness and austerity, and while it was true that he was a man of too severe dignity and too seriously engaged with the affairs of his profession to find time for trifles, he was approachable, responsive to the demands of friendship, tender towards the afflicted, helpful to struggling young men, and susceptible to the blandishments of the gay and mirthful in season.

His back office was headquarters for old friends who sought his advice and opinions upon all subjects, from the management of estates to the burning of a brickkiln; he was the encyclopediac referee of this coterie. The business system then in vogue of attending families by the year for a given sum placed the physician of that date more in the attitude of general medical and sanitary adviser than now. Those families having large numbers of slaves at work in saw mills, rice-fields, brick-yards, turpentine orchards and elsewhere, had frequently difficult problems before them, and it was not only about the maintenance of health that they were concerned, but upon every topic of domestic and manufacturing economy did they come with their difficulties to be solved.

To illustrate his accessibility a friend related the following incident: "I had been elected cashier of a bank recently organized, but knew not where to go to secure bondsmen. I was a poor young man, having no property adequate to satisfy the demand of such a large bond, and I almost despaired of securing the situation. One night happening in the office of Dr. Dickson, he noted my troubled look and remarked upon it I told him my story, and he replied: "Well, William, if my name is acceptable to your board of directors, you need not feel embarrassed for another day."

CHAPEL HILL ADDRESS.

Notwithstanding Dr. Dickson's studious habits, it was known to very few that his studies took as broad a range as they did in general science and literature, until in 1853 he was invited by the Alumni Association of the University of North Carolina to deliver an address before that body.

His classmates found that Dr. Dickson had made good use of the time which had elapsed since his graduation, and that he had returned to his *Alma Mater* the ripe scholar as well as the distinguished physician. His address from beginning to end indicated the atmosphere of broad scientific study from which he caught his inspiration. His busy mind had intelligently grasped the progress science was making, and he revelled in the glories of the achievements, not only of those sciences collateral to medicine, and which the educated physician of broad reading would be expected to master as an accomplishment, but mathematics, astronomy, geology, physics, were all passed in review. Nor was this all—profoundly imbued with the national spirit, he turned with pride to the American historians, scholars, scientists and artists with a familiarity which showed the bent of his tastes, and how thoroughly he was abreast of all the progressive work in all departments.

He gave in this address the key-note of his own career. In deprecating the utilitarian standard of professional accomplishments he says: "* * * But we object to an exclusive devotion to such pursuits as having a tendency to narrow and contract the mind. Nor does it generally lead to the attainment of the highest professional reputation. Marshall and Story were not mere lawyers, but men of enlarged and profound scholarship. Mere professional attainments would probably never have elevated Jeffrey or Brougham to the peerage; Armstrong and Darwin* are hardly known except as poets, and the literary fame of Burke and Clarendon completely eclipses their professional reputation. A low degree of knowledge and an imperfect discipline of the mind is the necessary result, where the standard of present utility is set up, as the measure of its value.

"It is indeed an ignoble principle of action—a mode of thinking which casts a deadly blight upon morals, literature and art, and extinguishes all high aspirations after the beautiful and ideal, either in life or literature. We are told by the poet, and with truth, that

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*Dr. Erasmus Darwin, the author of "Zoonomia" and "The Botanic Garden."

> "Man loves knowledge, and the light of truth
> More welcome strikes his understanding's eye
> Than all the blandishments of sound, his ear,
> Than all of taste, his tongue."

The general public had now learned, what his few intimate friends already knew, that the revered physician was ripening in the higher culture of the philosopher, the literateur, and the man of science.

WILMINGTON LIBRARY ASSOCIATION.

In 1860 Dr. Dickson and his intimate friend, the Hon. George Davis, conceived the design of founding a public library. Starting out one day with the warm impulse of establishing for their native town the social and literary advantages of a library of choice literature, they secured as the work of one day's solicitation eighteen hundred dollars with which to purchase books. These gentlemen with rare judgment prepared a list of volumes, not only representing the standard authors of the day, but the best editions in superior library binding, which Dr. Dickson selected during a special visit to New York City. This collection, although plundered by the army of occupation, reflects now their literary tastes and judgment, and forms the basis of the Wilmington Library Association. Before his death he, with his associates, had found a home for their collection in the City Hall building, in the room now used as the Mayor's office, but the outbreak of the war interrupted literary pursuits, and the cherished objects of the Library were not fulfilled. He was chosen the first President of the Wilmington Library Association in 1860.

His address before the general public was on the subject then near to his heart, and was entitled, SOME REMARKS UPON BOOKS AND LIBRARIES. He followed Mr. Davis,* whose reputation as a public speaker was State-wide, and none who heard the fervid eloquence of Dr. Dickson when he apostrophized the book of all books—the Holy Scriptures—will ever forget the murmur of applause which seized the surprised audience that, for the first time, discovered he was more than a skilled physician, the sympathizing succorer of the distressed—he was a literary man of the highest culture, and a speaker of distinguished merits. Even to this day, the impress of that famous address is remembered and recognized as the inauguration of a literary movement in the community. The address was not published, and it is not known if the manuscript copy exists. His office was plundered by the army of occupation and his papers strown into the streets by the Federal soldiers or camp-followers. His own library, to which in 1858 and subsequently he had made such large additions, had been sent to Laurinburg for safety, was captured at that place, and the last known of it it was on board a Federal gun-boat being carried down the river.

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*Mr. Davis had delivered a lecture as a part of this course on "The Good Old Times; When Were They?"

THE MEDICAL SOCIETY OF THE STATE.

When the call for the Convention for the organization of a State Medical Society was made in 1849, Dr. Dickson, although he was not of the number, was known to have been in hearty accord with the movement, but he was tied down by the burdens of an exacting practice. He became a member of the Medical Society of North Carolina in May, 1852, and in 1854 he was made its President. The weight of his influence was given in the forming of a State Board of Medical Examiners, and when this dream of its sanguine promoters was realized in 1859, he was chosen to be the first President of that new body. His associates were Otis F. Manson, J. G. Tull, C. Happoldt, W. H. McKee, Charles E. Johnson and Caleb Winslow, all men of excellent attainments—a worthy Board, to which was entrusted the first experiment in Medical State Examinations in the United States.

Dr. Dickson delivered the annual address before the Medical Society at its meeting in Fayetteville in May, 1853. His subject was "RESPIRATION" in its relation to Animal Heat, Heart's Action and Nerve Force. His review of the theories was a masterly exposition of what was then held, by the best teachers, beginning with the theory of Mayo, (*1674, *Medico-Chirurg. Review*), that "the effect of respiration was to generate heat, and not to cool the blood heated by its rapid circulation throughout the body, * * * and that it does this by a process analogous to combustion." In turn he discussed the theory of Lavoisier, that heat was caused by the combustion of carbon in the lungs, pointing out the objection held to that theory. He took up the experiments of Dulong, who set forth that there was much more oxygen absorbed by the respiratory process than was necessary to convert the carbon into carbonic acid—sometimes amounting to fully one-third more Dulong's conjecture that inspired oxygen was expended in the combustion of hydrogen, thus accounting for watery vapor exhaled. Liebig's view that the carbon and hydrogen of the food, in being converted by oxygen into heat as if they were burned in the open air—the only difference is that the heat is spread over unequal spaces of time, but the actual amount is always the same in the torrid as in the frigid zone. Against this theory the essayist weighed the opinion of Graves, holding in the main to the theory of Liebig. Claude Bernard's account of the glycogenic functions of the liver, showing that the liver had the important function of preparing respiratory pabulum.

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*Original Essay Tractatus de Respiratione, 1668.

After reviewing the various theories he goes on to say that he is "inclined to regard the opinion of the older physiologists, which ascribed a refrigerating effect to the respiratory process, to some extent, as well founded." He did not believe that the primary or more essential function of the lungs was to sustain animal heat. "If, then, neither the maintenance of the animal temperature nor the excretion of carbonic acid be regarded as the essential function of respiration, where shall we seek an explanation of it?" His inference was that the preservation of the motion of the heart, including withal that of the muscular system and the maintenance of nerve force, were the essential and primary object of respiration, although he by no means underrated the calorific function of respiration. Forty years ago and now, physiology was a very different thing, but the philosophical spirit of the older teachers compensated largely for their deficiency of our modern facts.

The lengthiest medical contribution which Dr. Dickson gave to the public was a "Report of the Medical Topography and Epidemics of North Carolina," made to the Transactions of the American Medical Association in 1860. The basis of this paper is in part the collection of observations from physicians in several sections of the State, together with his own observations, upon the geographical distribution of disease in the various sections, with a somewhat detailed account of them. This report remains to this day the fullest description of our endemic and epidemic diseases, and was a fair index of the capabilities of the writer in description and editing the material of others. The older members of the Medical Society of North Carolina will be familiar with this production, doubtless, but, in the light of our knowledge of the changes wrought in the characters of all diseases by the two visitations of epidemic influenza in 1889–1890, they may be impressed with the necessity of a wider range of the study of epidemiology.

The description given to this paper of "Febris Remittens Convulsiva," puts on record for the first time a description of a disease that was very fatal until its true nature was discerned. Dr. Dickson says: "In this class of cases the first, and sometimes the second, paroxysms of fever may be unattended with the appearance of alarming symptoms, but the third paroxysm is apt to be ushered in with a convulsion which seems to replace the cold stage of the same disease in adults, and which is always so alarming and dangerous an occurrence as to make it prudent to cut short the disease once by bringing the system very rapidly under the potent influence of the febrifuge." He modestly accords the originality of this suggestion to Dr. Henry F. Campbell, of Augusta.

Typhoid fever was a stranger to the Eastern part of North Carolina until in the fifties, as Dr. Dickson intimates, and "When it first began to prevail in the Eastern section of this State, cases exhibiting the blending or commingling of this type of fever with remittent fever were by no means uncommon, and in these cases it was necessary to keep in view its hybrid character in the treatment; such cases could not well be treated without quinine." Here we have an anticipation of Dr. Woodward's theory, for which at the International Medical Congress in 1876 he introduced the name of typho-malarial fever.

In this essay is described for the first time the invasion of cerebro-spinal meningitis, which invaded Davie county in 1856, as reported by Drs. Summerell, Kelly and Sharpe.

At the Salisbury meeting of the Society, May 15, 1855, Dr. Dickson delivered his valedictory address, on the completion of the second term of his presidency.

How nearly his life and death comported with his own model we will let an extract from this address tell:

"In times of public calamity arising from the visitations of fearful epidemics, who but a physician is looked up to, in aid of the public authority, to suggest the means of escaping from, or of lessening, their destructive progress? What other class of citizens is there which can inspire the panic-stricken with confidence or the despairing with hope? And may I not add, what other class have exhibited more abnegation of self or heroic devotedness to the great cause of humanity in its trying hours? If proof were needed, I might point to a long list of professional martyrs, who have exhibited the calmest courage amidst scenes which have paled the cheek of the soldier, and have not flinched from the discharge of duty at the risk of life. We must remark, too, that they were not influenced by the ordinary motives which influence the soldier in the exhibition of noble daring in the field of battle. There are no applauding thousands to witness their deeds of heroic daring—to shout in their ears the grateful sound of many-voiced applause—they are not surrounded by the pomp and circumstance of glorious war—no laurel decorates their brow—no monument is reared to perpetuate their fame. After spending their lives in the daily performance of deeds which might well put the philanthropy of a Howard to the blush, they descend to the tomb unheralded by the world's applause. The world has other matters to attend to, other schemes to plan and accomplish, and the memory of its humble, unpretending benefactors passes away with the passing hour. This is no fancy picture, gentlemen. Its literal counterpart was enacted in the year that has past, on our very borders, in the cities of Savannah, Charleston and Augusta, and must be fresh in the recollection of us all. If the world chooses to ignore such devotion to the great cause of humanity, let us the more fervently cherish the recollection of their virtues, and firmly resolve to imitate their noble example by a like devotion to duty, should circumstances unfortunately devolve upon us the task."

In politics Dr. Dickson was a staunch Whig of the old school, and when the political agitations which led up to the war were stirring the people with the strongest indignation against the attitude of the North, he counselled prudence and moderation. That he was one of a very small minority favoring the settlement of the troubles in a friendly way, made him none the less resolute for the Union.

Looking over the files of the Wilmington *Daily Journal* of 1861, our eye lit upon the announcement of a Union meeting to be held January 11th. The meeting was addressed by F. D. Poisson, J. G. Burr, George Davis and James H. Dickson. The account reads: "Resolutions were passed in favor of the settlement of the existing difficulties in the Union, and endorsing as a basis for such settlement the propositions brought forth by Senator Crittenden. In this meeting Dr. Dickson followed Mr. George Davis, "deprecating secession as a disunion of the South, and as inadequate to remedy the evils complained of by the South. If the North would not listen to the united demands of the South, then the fifteen Southern States would be justified in snapping the bonds that bind us to the North. The meeting adjourned with three cheers for the Star Spangled Banner." He lived to see his efforts for his country for reconciliation fail, and no Southern man aligned himself with the destiny of the Confederacy with more earnest courage. Hopeful of success he was not, but, like most of the staunchest who were for the Union as long as there was any prospect for its restoration, he unflinchingly cast all of his fortunes with his people.

So great were the demands of his large practice, for him to accept a position in the army was not to be thought of. He remained faithfully at his post, ministering to the sick at home. On the 6th May, of 1861, he presided over the meeting of the Board of Medical Examiners at Morganton, the last meeting held until the war ended.

It is not worth while, at this late day, to discuss the cause of the yellow fever in Wilmington in 1862. For half a century there had been no such visitation, and there was no physician then in practice who had seen a case of the disease. It was evident in August of that year that there was an unusual number of cases of fatal fever. Dr. Dickson made a report to John Dawson, Mayor, declaring the presence of yellow fever on September 17th (the letter in the *Daily Journal* is undated). His report went on to say that there had been no new cases since the 10th of September, and he hoped that this lull in the fever was due to the sanitary measures that had been adopted by the town.

On the 23d September Dr. Dickson went home with a chill which he recognized as the first stage of yellow fever. He was faithfully attended by Mrs. Dickson during his entire sickness and she fell a victim to the disease, but finally recovered. He was under the constant care of the physicians then in town, and especially by the senior Dr. McRee, who attended him day and night until, on Sunday morning, the 28th, his spirit returned to God who gave it.

The following appeared in the *North Carolina Presbyterian* of the issue succeeding the announcement in the Wilmington *Daily Journal:*

"In our last number we published a short list of prominent citizens who died of yellow fever in Wilmington; and, amongst others, was observed the name of Dr. James H. Dickson, a citizen of high standing and an eminent physician. But, more than this, he was a man of exalted piety. For some years he had been an elder in the Presbyterian Church, and was most faithful and zealous in the discharge of his duties. On the appearance of yellow fever in Wilmington he determined to stand bravely at his post, and was engaged in the noble work of alleviating the sufferings of his fellow-man when he, too, was stricken down by the fearful epidemic. But death had no terrors for this good man. He died, as he had lived, a shining example of true piety and religious devotion. We fully concur in the remark made to us by a friend on hearing of his death: 'No man was better prepared to die than Dr. Dickson.'"

Only a week elapsed between his official announcement of the fever to the Mayor and his own seizure, and in five days after he was dead. By the advice of the physicians all persons left town that had not already been scattered in a panic previously, and the death of Dr. Dickson spread sadness and dismay over the town and the country around. Many anxious families had centred their hopes on his professional wisdom and skill; most of them, too poor to leave town except by the impulsion of the direct necessity, had their hopes now crushed by his death.

At this distance from the sad calamity of his death, it is even now difficult to estimate his true worth. His portrait, which accompanies this sketch, denotes the serious demeanor, the reflective mind, the intellectual cast. He was taciturn at times, but it was rather the wisdom of knowing when to speak, than the lack of opinions and thoughts. Apparently austere at times, it was only the inflexibility of steel when truth was at stake. In the sick room he had not the loquacity which pleases the valetudinarian, but in time of peril, quickness of discernment, accuracy of knowledge, fertility of resource, and withal gentleness of touch. His visits were short, his words were few, his sympathy, though unexpressed, was great. Many have been the expressions of surprise and delight from the people in moderate circumstances, who, asking their accounts from him, found that the arduous services rendered had been estimated according to the purse of the recipient.

The fame which survives the medical man is largely estimated by his literary contributions. This is a method which would be unjust to the memory of Dr. Dickson. Although living the life of the student, and having no superior and few equals in scholarship in the profession, so great were the burdens of his practice, that there was little time for authorship. The glimpses we have, though, of his ability as a writer, show the quality of his trained mind and the graceful flow of his sentences. His vocabulary was rich, his research extensive, and before his death he easily held the highest position for literary culture among his professional contemporaries.

By his people—his family—his patients—his memory is not revered for scholarship, but for his skill as a physician and his consecrated Christian character. The mournful recollection that he unflinchingly perilled his life for them, is a heritage far richer than the applause of enraptured multitudes. His was the exemplification of a Christian courage which has nerved many another heart to go to the silent duty to meet "the pestilence that walketh in darkness," counting life not too dear to peril it all for the sick and helpless.

His own words are best fitted to close this memorial. They are but the prophetic forecast of that to which he attained:

"But in striving after the attainment of a high order of scholarship and the acqusition of human learning, let us not forget that man has a moral, as well as an intellectual, nature—that human learning, scientific knowledge, as we call it, is but the outward garment, the artificial investiture of truth—that our emotional feelings and affections have a higher dignity, a holier sanctity, than our intellectual powers. Let us not neglect the teaching of that *prima philosophia*, that supreme wisdom, which not only sheds its bright light on the pathway of life, but spans with its iridescent radiance the dark clouds which overhang the tomb—penetrates the otherwise impenetrable and obscure, and intermingles its cheering beams with the glorious effulgence of eternal day—that wisdom which

"Makes us brave
In the great faith of life beyond the grave."

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MEDICAL EXAMINING BOARD.—The State of Virginia has created a medical examining board of applicants for license to practice medicine and surgery, etc., of which Dr. Hugh M. Taylor, of Richmond, is President—*Weekly Medical Review*, St. Louis, Aug. 22, 1891. [This Board was organized in 1884, November 15, not quite seven years ago.—EDS.]

DRUNKENNESS LEGALLY DISQUALIFIES A DOCTOR FROM PRACTISING HIS PROFESSION IN GEORGIA.—This we learn from the *Virginia Medical Monthly*. By a recent legislative enactment in Georgia any physician, on being proven to drink to excess, is hereafter to be deemed disqualified to practice his profession. In North Carolina the Board of Examiners is authorized to withhold license from any applicant who cannot prove a moral character, or to rescind it upon proof of immoral conduct.

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

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THOMAS F. WOOD, M. D., Wilmington, N. C., } Editors.
GEO. GILLETT THOMAS, M. D., " }

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A BIT OF HISTORY RELATING TO THE STUDY OF STOMACH DIGESTION THROUGH GASTRIC FISTULÆ.

There are two great American cases, each of which has made a decided impression upon our knowledge of medicine. The one is a case of Alexis S. Martin,* the Canadian who had a gastric fistula from a gun-shot wound through which was studied the progress of digestion, giving the science of physiology some primary princi-

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**Boston Medical and Surgical Journal*, December, 1848. Vol. 49, page 389.

ples; the other the case* of a man who had a crow-bar shot through his skull, from below upwards, by the accidental premature discharge of a blast of powder, the patient recovering and thereby demonstrating a very important principle in surgery, besides other lessons. These cases might have been entirely lost to the profession had it not been for the true spirit of research of William Beaumont, M.D., Surgeon U. S. A., and Dr. J. M. Harlow, of Vermont. (Transactions Massachusetts Medical Society, 1868, Vol. II., pp. 329–346.)

Doubtless many cases are wasted because of the unfitness, or unwillingness, or dilatoriness of the doctor into whose hands the case falls. We cannot forbear dropping this hint to the hundreds of our readers who make no adequate study of their cases, or, at least, bury them in their note-books

The story may be well known, but we venture to repeat, Alexis St. Martin was accidentally wounded by the discharge of a musket, June 6th, 1822. The charge consisting of powder and buck-shot, was received in the left side of the youth, he being at a distance of not more than one yard from the muzzle of the gun. The contents entered posteriorly, and in an oblique direction, forward and upward, literally blowing off integuments and muscles of the size of a man's hand, fracturing and carrying away the anterior half of the sixth rib, fracturing the fifth, lacerating the lower portion of the left lobe of the lungs, the diaphragm, and perforating the stomach."† Dr. Beaumont saw him twenty-five or thirty minutes after he was shot, found the stomach lacerated through all its coats, and pouring out its contents.

The description of the surgical treatment of this wound is amazing, and the results wonderful. He was poulticed with "a carbonated fermenting poultice, and the surrounding parts constantly wet with a lotion of muriate of ammonia and vinegar, acetate of ammonia with camphor given in liberal quantities. But "high arterial excitement set in in twenty four hours with fever, and inflammation of the lining membranes of the chest and abdomen, great difficulty of breathing and distressing cough, whereupon he was "bled to the amount of 18 or 20 ounces, and took a cathartic. The medicine escaped through the fistula in the stomach." Four months after the injury was received an abscess formed about two inches below the wound, nearly over the cartilaginous ends of the first and second false ribs, very painful and extremely sore, producing violent symptomatic fever. On the application of an emollient poultice it pointed externally. It was laid open to the extent of three inches and several shot and pieces of wad were extracted.

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*The patient, the subject of this unique case, lived twelve years and a half after the injury. The bar which passed through his head was picked up smeared with blood and brain at a distance of some rods from the accident, and the bar and the skull are on exhibition, with the complete history of the case, in the Harvard Medical Museum. (Spec. No. 949, page 145, Catalogue Warren Medical Museum.) A photograph is given of the specimens in the Museum Catalogue as a frontispiece.

†Experiments and observations on the Gastric Juice and the Physiology of Digestion, by William Beaumont, M.D., Plattsburgh, 1833.

In the spring of 1824, two years after the injury, his wound was cicatrized, and in 1825 Dr. Beaumont began his first series of gastric experiments. Henceforth the case of Alexis St. Martin became a medical classic, and the reading of it is no more to be neglected than Vicar of Wakefield or the choicest gem of Scott.

And so let the young man, or old either, who says he has not read the details of this case resort at once to the references herein given, and acquaint himself, before he can understand the *raison d' etre* of this article. But to return to Alexis St. Martin and his fistula :

Dr. Beaumont had no easy task to keep his patient under his control. He commenced his experiments first on him at "Fort Mackinac, in Michigan Territory," and when he changed his post to Fort Niagara, N. Y, the wily Canadian returned to his home, and Dr. B. thought he would have to give up his further studies, as he remained home four years. After considerable difficulty and great expense he succeeded in engaging him, and so he was transported 2,000 miles with his wife and children, to Prairie du Chien, on the Upper Mississippi. After two years he quit his employer again, travelling in an open canoe via the Mississippi River, passing by St. Louis, ascending the Ohio to the lakes ; then crossed the State of Ohio to the lakes, and descended the Erie, Ontario and St. Lawrence to Montreal, and passed through an epidemic of cholera unhurt. But Beaumont held steadily on with his investigations, going straight for the facts, but never once forgetting to render most loyal and courteous attention to the speculators who had previously taught physiology. You may read his fifty-one inferences he draws from experiments, and compare them with what was then known, before you will be able to appreciate that he was the foremost experimenter of his day.

But Beaumont has another rival, and the short story must be told. Dr. Benjamin Waterhouse, the versatile Professor of the theory and practice of medicine and of natural history in the University of Cambridge from early in the century, the introducer of the practice of vaccination into America, gives the story in a foot-note to a lecture on "the evil tendency of the use of tobacco,"* which we saw there for the first time, of the "woman who had a hole in her stomach." Here is the story, as furnished by Dr. De-Carro, of Vienna, a distinguished propagandist of vaccination, to Dr. Waterhouse.

Theresa Peltz, the wife of a blacksmith, strong and generally healthy, sometimes worked in the fields and in the shop with her husband, had a tumor in the pit of her stomach, which finally broke through the membranes, muscles and skin, leaving an opening which became permanent of two inches in diameter, directly into the cavity of the stomach. Dr. Helm, the physician who had the woman in charge, often introduced a catheter as far as the upper and the lower orifice of the stomach, without giving the least pain to the patient, or provoking the smallest disposition to vomit. She would frequently wash out her stomach with milk and water through the external orifice, and as frequently relieve herself from any food that oppressed her by taking it out with her fingers. But to remove all doubt from his mind, Dr. Helm, of Vienna, sent to DeCarro the identical perforated tubes of wood and of metal, and also the identical little linen bag which he had used to ascertain the powers of this woman's stomach upon various articles of food, "which were put in and taken out of her stomach as you would biscuits in and out of an oven."

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*Cautions to Young Persons Concerning Health, in a public lecture delivered at the close of the medical course in the chapel at Cambridge, on Dyspepsia and Chronic Diseases, showing the evil tendency of the use of tobacco upon Young Persons, more especially the Pernicious Effects of Smoking Cigars, with Observations on the Use of Ardent and Vinous Spirits, by Benjamin Waterhouse, M,D., Cambridge, 1822. (Original Lecture in 1805.

This woman was a patient in the general hospital of Vienna in 1798,* thus antedating Beaumont by more than twenty-five years.

In this case, as in many others, the question of priority is not so much the important consideration in announcing a discovery, as it is the ability of the investigator to make his discovery applicable and practically useful.

We have mentioned these two epochal cases not only to bring out the history of the long-forgotten case of Dr. Helm, but to emphasize the importance of more careful study of individual cases. There is renown in the course of every physician's practice, if he would study exhausetively a small part of his more important cases. The talents of study and observation do not belong to all alike, and it is only a most rigid schooling in the method of study, and a willingness to see the truth, even when it is against our most cherished theories, that clinical records are worth much. But whether a physician reports his cases to a medical journal or not, if he has methods of study below the standard hinted at, he is missing the mark of his high calling.

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*We are indebted to Dr. J. S. Billings, Librarian of the Surgeon General's Library, for the following: "Helm (Jac.) Zwei Krankengeschichten: (1) Ein Weib mit einem Loch im Magen. (2) Eine in den Magen gedr. u. geheilte Stichwunde. Mit 1 Kpfrtaf. 8v. Wien, 1803. (Huebner.") An abstract of the work is found in "Allgemeine medizinische Annalen des Neunzehnten Jahrhunderts," 1803, page 423, under the title: "Helm's Beobachtungen uber die Verdanungsfahigkeit des menschlichen Magens."

HYDRASTIS CANADENSIS FOR NIGHT-SWEATS.—Cruse has used the fluid extract of hydrastis canadensis with very good results in the night-sweats of phthisis. He gives it in doses of thirty minims, and often finds that the dose does not have to be repeated for some time.—*Boston Med. and Surg. Journal.*

REVIEWS AND BOOK NOTICES.

Transactions of the Southern Surgical and Gynecological Association. Vol III. Third Session, held at Atlanta, Ga., November 11, 12 & 13, 1890.

The Transactions of this Association like that of its predecessors, is a handsome volume, and contains a varied and interesting contents. The Association met under the presidency of Dr. Geo. J. Engelmann, of St. Louis, who delivered an address on "The Health of the American Girl, as Imperilled by the Social Conditions of the Day." His opening remarks shows his conservatism: "The glitter of the knife has blinded us to the teachings of true, scientific gynecology, to the humbler phases of the science, to so simple a matter as the cause—the primary cause—of ill-health, and yet there is no more important study in gynecological science than this, the initial and avoidable cause of disease, the question of female hygiene—properly speaking—the functional hygiene of woman." It is time that the acknowledged masters in the science speak out before assemblies such as the one he was addressing, and not leave the hygienics which should guide our daughters into the way of health and strength to the cheap subscription books that stare us in the face at every turn. Dr. Engelman's studies in the habits and customs of the women of all nations during parturition, doubtless prepared him for the utterances so wisely chosen for this occasion.

"How shall we Treat our Cases of Pelvic Inflammation," by Richard B. Maury, M.D., of Memphis. The working theory of pelvic cellulitis was nearly demolished in this paper, and most of the gentlemen who entered the discussion of it agreed that what we American doctors, under the teaching of Thomas and Emmett for the last twenty years, have been calling pelvic cellulitis is not that at all, but the results of pelvic peritonitis.

The discussion was ample, instructive and quite harmonious.

This paper was appropriately followed by one from Dr. Joseph Price on "The Motive and Method of Pelvic Surgery." He concludes his paper with these spirited sentences:

"It (pelvic surgery) has reached a standard not to be measured by tyros and dabblers, without instinct for the art, and without energy to train for that, of all things so difficult to attain, the conception of the limitation of all art so as to comply with the limitations of nature and natural laws. The surgery that plucks out an eye or casts aside a limb, to save an eye, or a limb, or the life, is greater or better, and wiser, than a sentiment that preserves a shell to inclose a ruin."

The paper on "Supra-Pubic Cystotomy in a Case of Enlarged Prostate," by W. H. H. Cobb, M.D , of Goldsborough, elicited some interesting discussion. It was a pity that Dr. Hunter McGuire was not there to defend the operation, as he is the champion of this revived operation of Francois Rosset of two centuries ago, and had much experience to lead him to modify his earlier dicta about after-treatment. This operation is peculiarly interesting to the profession of this State, and series of cases were reported ten or twelve years ago by Dr. Bahnson, afterwards by Dr. Hyatt, and Dr. Budd, late of Lockville, had done several during the past few years.

We must pass by the paper on "Inflammation in and About the Head of the Colon," by Dr. L. S. McMurtry, of Louisville, with some regrets, as it covers excellently some of the ground so useful to consider, now that appendicitis is so prominently before the profession. We must also pass over "Indications for Operation in Ectopic Pregnancy," by Charles A. L. Reed, of Cincinnati, and would commend the careful reading of the paper and the discussion thereon to those who are specially interested as being worthy of their attention. Passing by two other papers, we will note for a moment a subject which the country and town doctor has more practical dealing with than any other—"The Conservative Treatment of Injuries of the Hand," which is the title of a paper by Dr. William P. Nicolson, of Atlanta. The advice of this surgeon was to follow Verneuil, and not use the scissors to remove tissue sufficiently damaged to require it—that is, pulpified and shreddy tissue. He uses few sutures and cleanses the hand thoroughly. While the patient is under an anesthetic, antiseptic rubber tissue is placed along the track of the wound to protect it against rubbing of the dressing and to preserve the blood-clot, and over the whole a light wet gauze dressing is applied and covered externally with rubber tissue. An opening is left in the tissue through which to pour an antiseptic lotion when required. He uses listerine as an antiseptic.

The discussion was participated in by Drs Bedford Brown, of Alexandria, Va, and Dr. H. F. Campbell, of Augusta, but we take the liberty of extracting from the discussion what was said by Dr. J. W. Long, of Randleman, on the method he employs in treating wounds of the hand :

"The first thing I do is to take a towel dipped in hot sublimate solution and wrap it snugly around the hand and forearm. Then an Esmarch bandage is applied, beginning at the tip of the fingers and extending to above the elbow. The hand and forearm are now freed from the bandage, which is fastened above the elbow, securely controlling the circulation. The parts are now submerged in a basin of hot water and soap and carefully scrubbed, in order to remove all grease and dirt. From this the hand is transferred to a hot sublimate solution, 1 : 500, where it is again thoroughly washed. Then I take off the ragged edges, or pulpified tissues, put in the stitches, and loosen the Esmarch bandage, when the blood comes down and the circulation is restored Iodoform is sprinkled along the line of the wound, and the parts dressed with gauze dipped in a hot 1 : 1000 corrosive sublimate solution. * * * On top I put borated cotton. * * * As a rule, I do not remove the dressing for ten or twelve days, at which time I almost invariably find the parts entirely healed."

Many are the excellent papers in this volume, and we congratulate this Association in maintaining its original standing. It is the result of hard work begun evidently at the termination of one session and continued to the beginning of the next.

Surgical Bacteriology. By N. Senn, M.D., Ph.D. Second Edition. Philadelphia : Lea Bros., & Co., 1891. [Price $2.00.]

This is the second edition of this work in the short space of two years. That the interest in the topic of bacteriology is increasing, may be inferred from the number of good volumes on the subject that are commanding our attention. In the Journal of August we noticed the Fraenkel's "Text-Book of Bacteriology," a most excellent treatise, which was not written so especially with a view of the practical application of the subject to pathology as the work before us.

Dr. Senn, as a teacher, excels in the practical application of the principles he defends, and has given us a work that will excite the interest of students.

Such a work as this is evidently needed by the bulk of the profession, for our observation has inclined us to believe that there is a small class of us who believe too much, because not trained rigidly to the microscopic technology, and have no sufficient knowledge of the life-history of micro-organisms. Another class of us ignore entirely the whole subject of bacteriology as belonging to the realms of unproven and unprovable theories, and demonstrations which are only seen by laboratory men. To the latter class the dogmatic utterance that "Bacteriology has rendered the term *miasma* obsolete," will be startling, and ought to arouse to a spirit of investigation. The author lays down the proposition that all must consider fair, that "Reputation no longer carries with it the weight of authority, unless the views advanced can be corroborated by the independent work of others."

The hereditary transmission of microbic diseases is submitted to both clinical evidences and experimental, of which we give a few condensed extracts. Netter (*Compt, rend.*, March 9, 1889) reports a carefully observed case of direct transmission of the diplococcus of pneumonia from mother to fœtus. The mother, pregnant eight months, was seized with croupous pneumonia, which terminated on the seventh day in a recovery. On the ninth day after the attack she was delivered of a living child. The child died on the fifth day, and at autopsy revealed "lobar pneumonia, involving right upper lobe, double fibrinous pleuritis, pericarditis, suppurative meningitis and otitis media on both sides. Bacteriological examination of the different inflammatory products, as well as of the blood taken from the left ventricles, showed the presence of Fraenkel's diplococcus of pneumonia."

Experimental proof is then given of the assertion first made by Bollinger, that the bacillus of anthrax could pass from mother to fœtus through the placenta, by quotation of *Gaz. hebdom. de Med. et de chir.*, 1883, of experiments done by Strauss and Chamberland, concluding that "the tissues of the placenta offer no insurmountable obstacle to the passage of the bacillus of anthrax from the maternal into the fœtal circulation." To this proof is added the experiments of Koubassoff, Kroner, Lever, all demonstrating the transmission of microbic diseases through the fœtal circulation. One of the strongest evidences of direct transmission is adduced by Tohne in the *Lancet*, March 6, 1886. An eight month's fœtus was taken from a cow the subject of advanced tuberculosis. Neither the placenta nor the uterus showed the presence of tuberculous products, but in the lower lobe of the right lung of the fœtus there was a nodule the size of pea, containing four caseous centres. The bronchial glands were the seat of tubercular adenitis; the liver contained numerous miliary tubercles, and all the lesions under the microscope presented the characteristic structure of tubercle.

The history of pathogenic bacteria had its origin practically in the discovery of anthrax in cattle by Pollender in 1849, published in 1855. (Pp. 199.) He discovered rod-like bodies in the blood of cattle, which appeared to be of a vegetable nature and resembled vibriones. Branell published in 1857 the discovery of the same bodies in the blood of men, horses and sheep which had died of anthrax. He also found the same bodies in the blood of the living animals.

Years before the discovery of the specific organisms of suppuration, living bodies were found and described in pus. As early as 1865 Klebs discovered between pus cells examined small round cocci which he believed produced the infection. (P. 78.) And in 1872 during the progress of the Franco-Prussian war he published his results. It was not until 1881 that Ogston published his great discovery of the presence of the streptococcus in the lymphatic channels, while the staphylococcus was found in abscesses which were circumscribed. Rosenbach completed the study, having at his command improved technical appliances, succeeding in making cultivations of pus-microbes, which he published three years after Ogston's report.

As early as 1866 Reidfleisch investigated the microbic origin of sepsis, the researches of Klebs having initiated a new era in the etiology of septic diseases. He differentiated between septicæmia and pyæmia.

Actinomycosis, lastly, we note in historical connection, as being one of the transmitted diseases from cattle, of parasitic origin, and susceptible of demonstration to a degree that would awaken the interest of the most skeptical, as to the origin of disease through the medium of minute organisms, such as fungi. This fungus can be seen by the naked eye, appearing as yellowish bodies in the pus of abscesses. This disease was described by Bollinger in animals in 1877, and recognized in man in 1878.

These historical items, gathered here and there while glancing through the well-filled pages, is enough to impress even the casual reader that the microbic origin of disease has its foundation in observations which are now capable of demonstration, and there is no more reason for skepticism about the outcome of these accumulated researches on the part of those who have not seen the demonstrations in the laboratory, than there would be to doubt the solidification of hydrogen by Pictet, because they could not themselves do the experiment.

We find ourselves apologizing for his work, but it is not because of the work, but because of the students who passively take the position of skeptics; the work itself is an array of evidence by a master, who has been leading the American profession in studies in pathology, and to all of our readers we desire to introduce him.

The chapter on tuberculosis (p. 156) is the most absorbingly interesting. It is no longer the unique discovery by Koch that his bacillus was constantly present in all tubercular lesions, nor that he had cultivated it outside the living body, and reinoculating it had reproduced tuberculosis, but the immense multiplication of facts about tuberculosis in general, which are available for clinical guidance.

Particularly as to the tuberculosis of the bones, a condition formerly called scrofula, have facts accumulated largely. It is by the presence of bacteria demonstrated in the diseased bones of young children that the surgeon is now enabled to make the crucial test. And while it is true that tubercle of bone is seldom developed during the progress of pulmonary tuberculosis, pulmonary and miliary tuberculosis can often be traced to a tuberculous focus in a bone (p. 182–183).

The author has brought material together which he makes no effort to harmonize, the truth being that there are many gaps between the lines of study which our present knowledge cannot fill, but to keep abreast with what is already known we commend our readers to make themselves familiar with the teachings of this excellent volume.

Report on Cholera in Europe and India. By Edward O. Shakspeare, A.M., M.D., Ph.D., U. S. Commissioner, of Philadeldelphia. Washington, 1890. Pp., 945.

Events in the medical world transpire so rapidly that most of us had relegated the cholera discussions which grew out of the epidemic visitations of the disease in Italy in 1884, and in Spain in 1885, to the remoter corners of our memory. If Dr. Shakspeare's report was slow in coming, it none the less appeals to our recollections of the hot contests of the days of Ferran's protective inoculation.

This is a ponderous quarto, full of excellent material, and a mass so great that the critical eye of the most leisurely reviewer would take months to penetrate. We have therefore selected only a few of the topics considered, leaving the study of the work to a future day.

Dr. Shakspeare was appointed by President Cleveland as Commissioner to visit "Spain and such other countries of Europe where the cholera exists, and make investigations of the causes, progress and proper prevention and cure of the said disease, in order that a full report may be made of them to Congress during the ensuing session." When Dr. Shakspeare got into the field with his portable laboratory, the epidemic at Palermo was raging, and there he began his investigation. This concluded, he turned his course towards Spain, but there virtually the epidemic had ceased, there was still lingering local epidemics in one or two of the Southern provinces. He traversed the track of the late epidemic in Spain, gathering information by every means. He returned to America in the autumn of 1886, after a year's absence, so shattered in health that he could not begin the work on his report until the end of the following winter. Dr. Shakspeare has given five years in all to this work—"all voluntary and entirely without pay for personal service." We trust that as soon as the Congress of the United States can spare time from the provision of benefactions to the patriots of 1861, they may vote a just sum to him. He perilled his life and added to the sum of human knowledge, and is worthy of a generous reward.

Around the question of immunity clusters a good many practical questions in future dealing with cholera. To this part of his subject Dr. Shakspeare has devoted a large amount of investigation.

He has collected the opinions of Moreau de Jonnes, Samaas, Lebert, Greisinger, Colin, Proust, Koch, Hirsch, Pettenkoffer, Bellew and Tommasi Crudeli, and all of these except Colin, and we may add Hirsch, agree as to some degree of immunity afforded by an attack; the latter observing that in India the native acquires the greatest degree.

Ferran, to the almost forgotten Dr. Ferran, we are pleasantly introduced. It seems that what we first heard so unfavorable in the British medical journals about this eminent Spaniard was communicated by an elderly English physician—Dr. Jelley—resident in Valencia His manner and conversation convinced Dr. Shakspeare that he was incompetent to judge of matters involving microscopic investigations, but was "influenced and warped by the most bitter prejudices." Dr. S. sought Dr. Ferran in his native town in Tortosa, where he was courteously received. His laboratory was very unpretentious, lighted artificially, and not scrupulously clean. He had one old-fashioned Nachet microscope and one with substage illumination, and a good Hartnack objective No. 12 water immersion. He demonstrated with these fairly, a number of bacterial preparations, including the comma bacillus of Sinkler and of Koch, even with his old Nachet glass. He found upon the shelves of the laboratory cultures of the comma bacillus of Koch and of the curved bacillus of Sinkler and Prior as pure and as perfect as he had seen anywhere in the world, not exempting the laboratories of Berlin and Paris. He made cultures before his eyes of the comma bacillus, and he afterwards saw them growing, "revealing their customary characteristics." In another place he says, "Honesty and regard for fair dealing require me to say that if the reare more beautifully stained microscopic preparations of bacteria, especially of the comma bacillus of Koch, and of Sinkler and Prior bacillus anywhere in Europe, I have never seen them." So much, then, in refutation of the charges which have been made against Ferran's skill with the microscope.

After reviewing the protective inoculations of Ferran, Dr. Shakspeare concludes :

"In view of all the foregoing data relative to the anti-choleraic inoculations of Ferran, it seems to me that there is no slight ground for the belief that subcutaneous inoculations into man of pure liquid cultures of the comma bacillus of Koch, whilst they do not usually excite disturbances which in any way resemble Asiatic cholera, apparently exercise a certain protective influence through the establishment of a considerable degree of immunity from attack and death by cholera."

Illustrative maps, diagrams, plates exhibiting microscopic appearances and cultures, intersperse the work, adding to its usefulness as a book of reference.

Materia Medica and Therapeutics, with Especial Reference to the Clinical Application of Drugs. By John V. Shoemaker, A.M., M.D., Vol II of a Treatise on Materia Medica, Pharmacology and Therapeutics. Being an Independent Volume Upon Drugs. F. A. Davis, Philadelphia. [Price $3.50.]

The author has adopted a system of classification "after Garrod," but does not use it in the arrangement of the subjects, preferring the all-but universal alphabetical plan. He gives a brief definition of the groups, describing what is meant by the terms Hæmatinics, Alkalies, Acids, Astringents, Refrigerants, Antipyretics, Alteratives, etc.

A consideration of the Pharmaceutical Therapeutic Agents, or Drugs, covers 623 pages, the pagination of this volume being consecutive with that of the first which we noticed some time ago. The author's diligence in bringing together medicines of tried and untried value, has made this part of his work a storehouse of useful and curious material. Often one has to search in vain many indexes to get the name of some of the rare articles enumerated. In one sense this is good for the reader, but such talents as exhibited by the author are usually not associated with the highest quality of the therapeutist. Undoubtedly, the majority of readers like a volume that contains a little of everything, especially a collection of good prescriptions, and this the author knows by his large knowledge of medical men.

No volume on therapeutics could ignore the new articles which have in these days of rapid interchange of thought and experience come to the surface. In looking through the index we could not find a single thing omitted that had acheived even temporary notoriety and of such articles as glonoïn, urethan, the anilid preparations, etc., etc , and to "tuberculin" six pages have been devoted.

The tables of formulas for hypodermatic medication are very complete and the index ample. We miss the usual index of diseases, which readers have learned to look upon as a necessity of every work on therapeutics.

Index Catalogue of the Library of the Surgeon General's Office United States Army. Authors and Subjects. Vol. XII. Reger-Shuttleworth. Washington: Government Printing Office, 1891. NC Med J. (os) 28-167, #3, Sept/1891,

This great work must be nearing its completion (if book catalogues are ever completed) having reached the letter S in this volume. As it progresses we find more and more the practical working value of such an addition to our library.

One of the noticeable and valuable portions of this volume will be the immense number of references to "Sanitary"—"Sewers"—"Sewage," "Sewage-Farming," "Sewage-Filtration"; also to "School-Desks," "School-Houses," etc., etc. A surprising number of titles, comprising twelve column pages, are on "Serpent Charmers" and "Serpents."

This volume is maintained at the degree of excellence noted in its earlier issues, the present one containing 1,004 pages of beautifully printed matter. The medical profession is particularly favored in having this great work in the hands of Dr. Billings, who has been spared in health and strength to go on with it without interruption. We wish him and his assistants success to the end.

Origin, Purpose and Destiny of Man, or Philosophy of the Three Ethers By William Thornton, Boston. Published by the author, 1891.

The author takes ground, amongst other peculiar theories, against the germ theory, and "institutes the transmission theory of disease."

"The whole process of evolution, summed up, means that the discrete by separation is an emanation from the almost continuous, successive stages of which can be manifested in no other way than that life is the continuous aggregate of the first ether, the luminiferous ether itself is the second ether, and all tangible substances of which we have a knowledge in the inorganic world, are a composition of the second and third ethers. All organized bodies are made up of the three ethers."

With this glimpse we leave the little book of a hundred beautiful pages to those who are fonder of philosophical speculation.

SEXUAL NEURASTHENIA: [NERVOUS EXHAUSTION.] ITS HYGIENE, CAUSES AND SYMPTOMS, with a Chapter on Diet for the Nervous. By George M. Beards, A.M., M.D. [Posthumous Manuscript.] Edited by A. D. Rockwell, A.M., M.D. Third Edition—with Formulas. New York: E. B. Treat, 5 Cooper Union, 1891. [Price $2.25.]

This book is sufficiently explained by its title page. It has the suspicion about it of being padded mechanically, and could as easily have been produced in a volume one-third the size, and of one-half the price. Are such books necessary at any price? is the enquiry which naturally flows from the reviewers pen.

NORTH CAROLINA TRANSACTIONS WANTED.—The editors would like to secure enough copies of the Transactions of the Medical Society of North Carolina to complete their files, viz: that of 1849, the meeting of organization, 1850, 1851, 1852, 1854, 1856, 1859. If exchange is not acceptable, cash or books will be given. We have at our command several years of Transactions for exchange, and a few for distribution to those who will agree to bind them. There is only one complete volume of the bound Transactions we know of in the State—that is the property of the Medical Society, but it is loaned to some person not remembered by the Secretary. The following duplicates are offered for exchange: 1853, 1855, 1857, 1858, 1860 and 1866, and some of the later issues. We will also purchase, or exchange for the last volume of the "MEDICAL JOURNAL OF NORTH CAROLINA," ending November, 1861. The Medical Society of North Carolina has no permanent home, and it is therefore not practicable to have a library of its own, and as our office is practically the depository of Transactions and Journals, those who interest themselves in securing these numbers are, in placing them in our custody, making them accessible to the profession.

CURRENT LITERATURE.

THE VASO-MOTOR PARALYSIS IN INFLUENZA GRIP-LUNG.

The medical profession will acknowledge its indebtedness to Professor John B. Elliott, M D., of New Orleans, for some fresh and original clinical studies in some of the conditions of the late pandemic, which we find in "THE CLIMATOLOGIST."*

Dr. Elliott first observed the condition of vaso-motor paralysis of the lung early in the epidemic, and all subsequent cases were examined closely in order to test his first observation.

Here is a transcript of his first case: A boy of 13 with a bad bronchial cough, temperature 100°, pains in head and limbs. Prescribed alkaline cough mixture. Five days later, temperature 102.5°, respiration 26, cough troublesome and painful, sputa scanty bloodless. Left lung clear upon percussion, respiration exaggerated, no râles, right lung dull on percussion. Air entering the lung upon deep inspiration, but lacking the vesicular element, sounding as if it was confined to the tubes, although there was no bronchial breathing. Vocal resonance slightly above normal. The peculiar condition of the boy's lung is thus analyzed:

If it was a congestion precedent to the solidification of pneumonia, then he was likely to have a very extensive amount of lung involved, and so a very serious case. He had never seen any such general congestion precede an attack of pneumonia. The total absence of râles, either crepitant or subcrepltant, was peculiar and unusual. The number of respirations—26 a minute—did not seem to indicate very much loss of breathing space. The patient did not impress him as being seriously ill.

At the second visit the lung was carefully examined and no change found. There was still about the same amount of dullness. the same dry respiration, absence of râles, slight increase of vocal resonance, little sputum, no blood. Although there had been plenty of time for the supervention of pneumonia, the lung lacked the characteristic signs. I could say that the lung was congested, but that the patient did not have pneumonia.

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*THE CLIMATOLOGIST, a Monthly Journal of Medicine, devoted to the Relation of Climate, Mineral Springs, Diet, Preventive Medicine, Race, Occupation, Life Insurance and Sanitary Science to Disease. Edited by John M. Keating, M.D., Frederick A. Packard, M.D., and Charles F Gardiner, M.D. August, 1891. This is No. 1 and Vol. 1 of this periodical, which we welcome to the hopeful race for eminence in Preventive Medicine.

He went to see the case the next day with some curiosity, for if it was to develop into a case of pneumonia, he had found a unique phenomenon in the long-continued stage of passive congestion preceding it. The patient was easy and comfortable. The cough was loose and the expectoration free without blood. Temperature 101°, respiration 26. Upon examination the lung was still dull, and auscultation showed the lung to be filled with large loose mucous râles. These râles, following upon the stage of dry passive congestion of the preceding days, caused him to appreciate that he was dealing with a new condition, and stimuiated by this enquiry, he pursued his studies. The condition outliued he fell into the habit of calling the *grip-lung*.

This *grip-lung* is the type of the vaso-motor paralysis to which I desire to call attention; for afterwards, in the course of the epidemic, I could recognize the same condition in other apparatuses and organs.

My interpretation of the above case was made certain by continued observations upon similar cases through the succeeding weeks. My final conclusions were as follows :

1. The influenza is a disease which affects primarily the nervous system. The initial attack is usually simple, lasting but three or four days, yet producing a nervous prostration of all proportion to the mildness of the attack.

2. A very large proportion of cases relapse, and in these relapses occur the phenomena of vaso-motor paralysis of which I am now speaking.

3. These vaso-motor paralyses seemed to be local phenomena, sometimes introduced by evidences of general vaso motor paralysis (slight chill.)

4. In the large majority of the cases observed this vaso-motor paralysis occurred in the *right lung ;* in a few it occurred in the *left lung.* In three cases it occurred in the meninges of the brain. In two cases apparently in the liver. In one case in the kidney.

In one case in the spinal cord. In many cases intermittent heartbeat showed interference with tne nervous mechanism of the heart.

1. Taking up these postulates in the order of their statement: I think no argument need be made upon the first. As far as my inquiries extended among my brother practitioners, they all seemed equally impressed by the mildness of the primary attack and the disproportionate nervous prostration. In one of my own cases the patient, a middle aged female, was confined to bed for a week, and yet the temperature never rose above 99.5°. Nervous prostration was literally the only symptom in the attack. This nervous prostration was always notable in the simplest case, and according to my observation lasted from forty-eight to seventy-two hours, after the temperature had returned to normal.

2. The relapsing cases were usually accompanied by vaso-motor paralysis somewhere in the body, and every relapsed case was serious. These relapses occurred during the period of nervous prostration following the primary tatack, usually within seventy-two hours. They were determined by any extra call upon the nervous system for work, such as:

Any undue physical exertion.
Any undue effort at digestion, a heavy meal.
Any excitement, mental labor, or nervous shock.

They were frequently introduced by a general chilliness, but seldom by a rigor, and this sensation of chilliness frequently recurred throughout the relapse.

3. These vaso-motor paralyses seemed to be local phenomena. Under this head falls what I desire to say concerning the *grip-lunq*. In the typical case given the following facts seem to me to be conclusive as to the pathological state being one of vaso-motor paralysis with passive blood stasis.

(*a*) The dullness over the right lung as compared with the left lung was plain even to a layman. The percussion was performed upon the surface of the body without intervening covering, and was comparative—each portion of the right lung being contrasted with the corresponding portion of the left.

(*b*) The dullness was *not pleural*, for there was absence of pleural pain, and the vocal resonance, instead of being remote (pleural), was slightly increased (lung).

(*c*) There was no exudation at first, for there was an absence of bronchial breathing, and an absence of bronchophony.

(*d*) This total absence of exudates proves the condition to be one of passive blood stasis, and not one of active (inflammatory) congestion. That this condition was one of passive blood stasis seems to be further proved by the fact that it was entirely indefinite and undetermined in its continuance. My own observations taught me this important fact, that the younger the patient the shorter the existence of the condition. In the case cited in this paper the blood stasis terminated upon the third day. In other cases I have recognized it in patients at the end of three months.

The method of resolution also supports the conclusion contended for. When resolution occurred early, large mucous râles appeared at once, as if there had been a free and sudden effusion into the tuber, and not the gradual breaking down of a semi-solid exudate.

4. The fact that the blood stasis occurred chiefly in the right lung fixed my attention early in the epidemic. Out of twenty-five cases of *grip-lung* twenty-two occurred in the right lung, and three only in the left Of these three, one had tubercle at the left apex, one had chronic parenchymatous nephritis, and both lungs were involved, and the third had suffered from asthma for some years, and both lungs were involved. It appeared as if some preëxisting defect in the left lung was necessary to produce the condition there. If this curious predilection for the right lung was as commonly noted by other observers as by myself, it is worthy of record.

In the cases of *grip-lung* another fact was observed which may explain why so many cases of pneumonia were recorded. I observed that where the blood stasis continued for a week or more a slow exudation seemed to occur; that dullness slowly increased; and that vocal resonance became more and more pronounced. In such cases, however, the condition differed essentially from pneumonia in its method of clearing up. There was no sudden resolution with subcrepitant râles and defervescence, but a gradual and slow restoration of the lung to its normal condition. Furthermore, I have been consulted by patients from the country who had passed through an attack of the influenza, and who consulted me because they had not regained their health. In two such cases no reference was made by the patients to any trouble with the lung. There was no pain, no cough. The respirations were, however, in one case 26, in the other

24 per minute. Examination showed dullness over the right lung, with dry respiration and some slight increase of vocal resonance. Both patients still had partially unresolved *grip-lung*. These conditions disappeared gradually in two or three weeks. From my observations throughout the epidemic such cases begin with a passive blood stasis in the lung, such as I have described, but without the active congestion and exudation characteristic of acute pneumonia. Where resolution does not take place suddenly by free liquid secretion, and the large mucous râles described in the cases cited, a slow, gradual exudation takes place accompanied by a gradually increasing vocal resonance; but I have never seen it reach the trypical bronchophony of the second stage of pneumonia, nor have I ever observed the marked bronchial breathing of the same disease.

The essential differences, then, between acute pneumonia and the *grip-lung* would be as follows :

The pneumonic lung has a very brief period of active congestion, followed by rapid exudation and consolidation, giving crepitant and then subcrepitant râles with bronchophony and bronchial breathing usually within forty-eight hours, frequently much sooner.

The *grip-lung* has a long and very varying condition of passive blood stasis unaccompanied by râles. If resolution occurs within three or four days, it is accompanied by large mucous râles, and no time is given for the slow appearance of bronchial breathing or bronchophony ; but, during the long continuance of the blood stasis, an exudation occurs, increasing slowly, which will give in time some bronchophony and bronchial breathing, but never so complete as in pneumonia. Resolution never occurs in these cases with the suddenness that characterizes it in acute pneumonia. The condition passes off as gradually as it formed. The sharp, clear-cut, and sudden phases of the pneumonic attack separate it clearly from the obscure, irregular and slow phases of the *grip-lung*.

That other organs suffered from the same vaso-motor paralysis and passive blood stasis seemed to the writer unquestionable. Two cases affected with *grip-lung* had head symptoms, which in both cases entirely obscured, for a time, the condition of the lung. These symptoms were sleeplessness and active delirium, lasting from five to seven days. During the existence of this sleeplessness and delirium the blood stasis in the lung appeared, attention being drawn to the lung by a slight increase in respiratory movement, not by any complaint from the patient. The condition of the lung was in both cases secondary to the brain hyperæmia. In both cases in which this hyperæmia of the brain existed, it passed off in from five to seven days, leaving no evidence of permanent local effect. A third case was seen, but could not be followed up. One case was observed where slight tetanic symptoms, rather unique and transient in their character, pointed to the spinal cord as the seat of a hyperæmia.

In two cases which have fallen under my observation since the epidemic there are all the symptoms of a chronic, local, spinal hyperæmia, due to attacks of influenza. In these cases a long-continued passive hyperæmia has probably resulted in some local connective-tissue hyperplasia and sclerosis.

Two cases of hyperæmia of the liver in influenza were active rather than passive. The attacks were preceded by the usual mild symptoms of the primary attack of influenza. When seen the liver was enlarged and painful to the touch. One of these cases lasted but twelve hours, the other forty-eight. These cases, involving the liver, have cast some light for me upon two cases of chronic affection of the liver seen since the passing away of the epidemic. These two latter cases date their liver affections from attacks of the influenza In both cases the dimensions of the liver in the mammary and axillary regions are a full inch less in vertical dullness than normal. A partial sclerosis seems to have occurred diminishing the bulk of the organ. Both patients have very notably lost in weight, yet are without the patent evidences of obstructed blood flow through the liver, namely, ascites, and distention of the superficial abdominal veins.

Dr. Elliott saw one case of passive hyperæmia of the kidney, and a second case since, but dating from an attack of influenza, gives albumen in the urine with hyaline casts This case yielded to simple treatment in a way that led to a belief that it was also the result of a *grip-kidney.*

The cases in which the heart suffers seemed to depend upon disturbance of the nervous ganglia controlling the heart's rhythm. Intermittence of the heart's beat has been the commonest symptoms noted. One case of intermittent heart-beat was observed in a child 11 years of age. Several cases have been observed in the young adult. In the aged, where it is a more or less common phenomenon, evidence of its "grip" origin could not be relied upon.

The explanation of these local vaso-motor paralyses has yet to be worked out. The facts seem to be that the influenza causes a general depression of the nervous system; that with this general depression the vaso-motor apparatus sympathizes (general feeling of chilliness); that the chief vaso-motor centre in the medulla rallies quickly from the depression, but that the peripheral vaso-motor ganglia in the different organs fail to regain their tone, leaving the arterioles relaxed and the capillaries engorged. These local failures of the vaso-motor apparatus are probably determined by preëxisting feebleness in the nervous mechanism of the organ. These local blood stases are totally without definite time limit as to their continuance, the age of the patient being the only factor that seemed to be in any way connected with their duration. The younger the patient the more brief the paralysis.

The results of these hyperæmias will probably engage the attention of the profession for many months to come. Passive hyperæmias are conditions of sluggish circulation, and present us with the anomalous fact that with an existing anatomical hyperæmia we have a lack of proper pabulum (blood slowly renewed), or, truly speaking, a physiological anæmia. In the presence of such a blood stasis the low grade tissue (connective, skeleton tissue) flourishes. The pabulum which is unfit for the development of a high grade parenchymatous cell (nerve-cell, liver-cell) will always freely support the connective-tissue cell, and so connective-tissue hyperplasia with consequent contraction and sclerosis is to be expected. Connective-tissue hyperplasiæ are likely to be not uncommon during the coming months as relics of the influenza. To establish such an origin would, however, give me grounds for a more hopeful prognosis than is usually afforded in connective-tissue hyperplasia.

ARISTOL IN IVY POISONING.—Dr. J. J. Levick reports a case in which severe poisoning from rhus toxidendron was promptly much relieved by the free dusting of powdered aristol on the affected parts.—*Boston Medical and Surgical Journal.*

CURRENT NOTES.

THE SNOOK-HERR POISONING CASE, which has been discussed so freely and so ably in the pages of our esteemed contemporary *The American Practitioner and News*, is full of instruction to the entire profession. The theory of arsenic poison was not substantiated. We were very much interested in the official investigation by H. M. Goodman, M.D., given in the August 29th number of the above journal, and commend its perusal, with all the other contributions on the subject in *Medical and News and New York Medical Journal*, to the section on Medical Jurisprudence.

A HISTORICAL NOTE ON THE SUBJECT OF SYPHILIS AMONG THE ABORIGINES.—(*From the North Carolina Reprint of Lawson's History of North Carolina, p.* 37.)—He is narrating the visit to him of the Santee Indians. "At these cabins came to visit us the King of the Santee nation. He brought with him their chief doctor, or physician, who was warmly and neatly clad with a match coat, made of turkie's feathers, which makes a pretty show, seeming as if it was a garment of the deepest silk shag. This doctor had the misfortune to lose his nose by the pox, which disease the Indians often get by the English traders that use among them; not but the natives of America have for many ages (by their own confession) been afflicted with a distemper much like the lues venerea, which hath all the symptoms of the pox, being different in this only, for I never could learn, that in this country distemper, or yawes, is begun or continued with gonorrhœa, yet is attended with nocturnal pains in the limbs, and commonly makes such a progress as to vent part of the matter by bothes*, and several ulcers in the body and other parts, oftentimes death ensuing. I have known mercurial unguents and remedies work a cure, following the same methods as in the pox, several white people, but chiefly the Criolos [natives], losing their palates and noses by the devouring vulture. (Date of narrative 1700.)

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*Bothes, from the Latin bothor, an old term applied in a broad sense to any tumor, specifically to an ulcerated tumor—in its narrowest sense a papule.—*Foster's Dictionary.*

One of the Oldest Cases Reported of Wound in the Bladder with Recovery.—According to the prognostic aphorism of Hippocrates there was no hope for wound in the bladder In the year 1558 Coomade a Bernheim, a trooper in the expedition of Philip, King of Spain, against Henry II., of France, was wounded by a fellow-soldier with a bullet, which, recoiling against his pouch, made of a plate of steel, and full of gun-powder and ball, near the abdomen, and within handsbreadth of the navel, entering into his body and wounding the bladder remained there. The very learned physician, Centimane, called to his assistance Leonidas Wolcias. They were about to give up the case, out of respect to Hippocrates, but the personal entreaties of the patient prevailed. They cleansed his wound of filth, viscosity, corrupted blood, and from whatever else that remained which had entered with the bullet. The urine flowed from the wound twelve weeks and at length was entirely cured.—*Rosset on the High Operation*, Paris, 1590.

Cheselden's High Operation for Stone.—In the several operations he reports (*High Operation for Stone*, London) the urine came by the natural way in about three weeks. Two boys he cut, aged 11 years, one of the stones weighed 3¼ ozs., the boys scarcely complaining during the operation, and went to sleep soon after. The greater part of the next day they played cards, and complained of nothing but hunger. Le Mercier says, about the after-treament of the High Operation (*Le Mercier*, "Whether or no in cutting for the stone in bladder the incision should be made at the pubes?" Thesis, Paris, 1635) says "the patient shall not be troubled with the tubulus (catheter) which used to be thrust into the wound, nor with the long tent, which two things being used give the patient no small pain, and dispose the parts to inflammation, and make it almost impossible for him to take any rest: and he should be free from that filth, which usually attends those that are cut for stone. For excrements from the intestines shall be conveniently received in a bed-pan, and the urine in a urinal. He may also change his posture, and lie sometimes on the left, as he shall like best.

Causes of Ulcers on the Legs being so Frequently Situated Just Above the Ankle.—The superficial and deep veins of the leg freely communicate with each other in the neighborhood of the ankle-joint. The first two inches above that point is the spot where the greatest stress is laid upon these superficial veins; below that point they freely communicate, and if the blood cannot return by the superficial veins, it can do so by the deep veins or *vice versa*. But when you reach the point where that brown patch of skin so often appears in old persons, above the inner malleolus, the anastomases are less free, and this appears to me to be the reason why ulcers from varicose veins occur so frequently about that neighborhood.—HILTON on *Rest and Pain.*

HILTON'S METHOD FOR DEEP ABSCESS RETOLD.—"Some surgeons, when speaking of deep abscesses say, with rash confidence, 'Plunge in a knife!' It is a grand term—'Plunge a knife into a deep abscess!' It is not a courageous plunge for the surgeon, for it is without danger to himself, while perhaps it is a fatal stab to the patient. Some more careful surgeons say, 'Wait until the abscess comes nearer to the surface, so that it can be opened without danger; but the patient may die in the meantime, Now, the plan I have been in the habit of adopting and recommending is this—in the, for example, of opening a deep abscess in the axilla—cut with a lancet through the skin and cellular tissue and fascia of the axilla about half or three-quarters of an inch behind the axilla edge of the great pectoral muscle. At that part we can meet with no large blood-vessel. There is only a small branch of one of the external thoracic arteries, which sometimes runs along the edge of the axilla, excluding that, which, if wounded, can be easily ligatured or twisted, so far as I can see we run no other risk. Then push a grooved probe or grooved director upwards into the swelling in the axilla, and if you will watch the groove in the probe or director as it is being passed up through the comparatively healthy tissues into the axilla, a little stream of opaque serum or pus will show itself. Take a blunt (not a sharp) instrument, such as a pair of "dressing forceps," and run the closed blade along the groove in the probe or director into the swelling. Now opening the handles, you at the same time open the blades situated within the abscess, and so tear open the abscess. Lastly, by keeping the blades of the forceps open during the withdrawal of the instrument, you have a lacerated track, or canal, communicating with the collection of pus, which will not readily unite, and will permit the easy exit of matter. In this way you may open an abscess deep in the axilla, or in other important parts of the body, without fear of inflicting any injury upon the patient..” Add to the above what the doctor knows about antiseptic preparation and after-treatment, and his timidity, if he has any, ought to be reduced to the minimum, even though he should have no help within miles. Our friends who live under the shadow of the Great Smoky ought to be as much at home with this kind of surgery as the most expert surgeon at the polyclinic.

EXPERIMENTAL PRODUCTION OF EXOPHTHALMOS.—It is known that stimulation of the cervical sympathetic, besides other effects, produces protrusion of the eyeball on the side stimulated. H. Stilling (*Comptes Rendus*, cxii, 3, p. 160) finds that ligature of both jugular veins and simultaneous section of the cervical sympathetic nerve on one side produces in the rabbit well-marked exophthalmos on both sides. Besides this, there is œdema of the face, swelling of the nasal mucous membrane, and almost always a flow of tears. The latter effects usually last only about twenty-four hours, but the exophthalmos lasts for seven to ten days.—*Suppplement to the British Medical Journal.*

GALVESTON MEDICAL SCHOOL.—We neglected to note at the time we saw it the engraving of the new medical college building erected lately in Galveston. It is handsome and well-appointed in every way, an honor to the State of Texas. The College has made a better beginning than any we know of in the South except the University of Virginia, either before or since the war, inasmuch as the professors were chosen with what wisdom they could command, and to each professor is given a stated salary. The following constitute the Faculty : Dr. J. M. T. Fleming, of Baltimore, was elected Professor of Surgery, at a salary of $3,000 per annum; Dr. Edward Randall, Galveston, Professor of Materia Medica and Therapeutics, at a salary of $2,500; Dr. Allen J. Smith, Philadelphia, Professor of Pathology, Bacteriology and Histology, at a salary of $2,000 per annum; Dr. A. G. Clopton, Jefferson, Professor of Physiology and Hygiene, at a salary of $3,000 per annum; Dr. Wm. Keeler, Edinburgh, Scotland, Professor of Anatomy, at a salary of $2,500; Dr. Seth M. Morris, Austin, Professor of Chemistry for one year, at a salary of $2,000 per annum; and Dr. George H. Lee, Demonstrator of Anatomy.

THE DEATH OF DR. DAVID H. STORER is announced in the *Boston Medical and Surgical Journal* as having occurred on the 10th September. He was 87 years of age. He was the sixteenth presiding officer of the American Medical Association, and, with the exception of Dr. Davis, the oldest survivor of its presidents. He was a naturalist of distinction, having contributed a Synopsis of Fishes of North America. He was a member of many of the medical and scientific societies of the country, and a prime mover in the establishment of the Harvard Medical School, in which he served as Professor of Obstetrics and Medical Jurisprudence.

TRICHINASIS TREATED WITH ARSENIC—HOW TO GET AND STAIN SPECIMENS OF TRICHINIA.—Dr. William H. Merrill (*New York Medical Journal*, September 19, 1891) reports a case of trichinasis treated successfully with arsenic in doses of 5 drops of Fowler's solution three times a day, to be increased 3 drops daily until constitutional effects follow. It was five days after the arsenic was administered before slight improvement showed itself. For the next fortnight improvement was steady and fairly rapid. The arsenic had been increased irregularly until the patient was taking 36 minims in twenty-four hours. Before this dose was reached constitutional symptoms had shown themselves three or four times. On the advent of such symptoms the dose was lessened; on their disappearance, cautiously increased until the maximum was reached. This dose was given steadily until the patient's improved condition warranted its gradual diminution. *To prepare a specimen of muscle*, a linear incision was made over the belly of the right biceps and a small cube of its muscular substance removed. A portion of this teased in a physiological salt solution examined with a lens of low power, showed trichiniæ in abundance in their adult form; none were found in the stage of granular degeneration. Sections stained with a double alcoholic solution of fuchsine and methylene blue showed the trichiniæ stained blue, while the tissues were stained red. Occasionally a simple worm was found stained by the fuchsine, but the specimens, taken as a whole, showed each trichinia and capsule clearly and in sharp contrast with the tissues.

RECREATION OF THE PHYSICIAN.—The great majority of physicians depend for their subsistence upon work, and the most of us derive from our varied labor a great amount of happiness. The great problem, therefore, is how to accomplish the greatest amount with the least injury to health. This is best attained by intervals of relaxation. Moreover, the *quality* of the work accomplished often depends upon the amount of rest allowed, and upon a habit of occasionally withdrawing the mind as completely as possible from business cares during the intervals of rest. It is wise to have some supplementary occupation, wholly different from professional labor, to which we can turn, from time to time, for refreshment. The cultivation of flowers, the study of some branch of natural history or other science, the pursuit of some subject in history, literature or art, etc , furnish an agreeable change from our regular employment, to which we can afterwards return with increased power of application. Many great workers avail themselves of this alternation of employment, often seeking the very opposite to their professional duties for refreshment I knew an eminent Justice of the Supreme Court of Massachusetts, who, during the summer circuit, after a hard day's work in court, would retire to his bedchamber with a candle, and spend the evening in reading a sensational novel; and we all know how Macaulay delighted in reading works of fiction during his moments of leisure. Sir John Lubbock, well known for his researches in anthropological, botanical and entomological subjects, is, by profession, a banker in London, busily occupied in financial affairs, and also a member of Parliament.—FRANCIS MINOT, M.D., in *Boston Medical and Surgical Journal.*

BENZIN AND KEROSENE AS DISINFECTANTS FOR INSTRUMENTS.—Referring to Dr. F. W. Langdon's paper on the use of ordinary commercial benzin as an antiseptic agent (*Cincinnati Lancet-Clinic*, February 7th, 1891), Dr. N. K. Lavrentieff, of Tzaritzyn (*Saratovsky Sanitarnyi Obzor*, No. 9, 1891, p. 225), states that for many years he has employed the fluid for disinfecting his surgical instruments, simply keeping them immersed in it. While insuring an aseptic condition, benzin does not corrode instruments, and generally does not injure them in any way. The only drawback attending the use of benzin is said to consist in its extraordinary volatility. Lavrentieff recently tried to substitute for benzin another common product of petroleum—namely, kerosene. Up to the present he is satisfied with the results. The substance does not corrode instruments, while it is less volatile and much cheaper than benzin.—*Sup. to Brit. Med. Journal.*

THE PROGRESS OF THE COMMITTEE APPOINTED TO SECURE THE RECORD OF THE CONFEDERATE MEDICAL OFFICERS WHO SERVED IN THE WAR OF 1861–1865.

NC Med J (OS) 28: 182-184, #3, Sept 1891.

The Committee gives below the names of all those medical officers whose names alone are given, but who have given no data of sufficient importance to make the record of value historically. The Committee urges those whose names appear below, or their living representatives and friends, to help by sending dates of commission, campaigns in which they served, hospital or other appointments. and everything appertaining to themselves that ought to appear, and send it to the NORTH CAROLINA MEDICAL JOURNAL :

James M. Abernathy, Assistant Surgeon, 1861.
W. V. Aderhold, Surgeon, 75th Cavalry.
J. B. Alexander, Assistant Surgeon, Mecklenburg.
A. J. Almond, Assistant Surgeon, 8th Infantry.
J. W. Alston, Warren county.
James T. Armstrong, Assistant Surgeon 17th Infantry.
R. H. Baker, Assistant Surgeon, Gates county.
J. S. T. Baird, Surgeon, Iredell county.
W. R. Barham, Assistant Surgeon, 28th Infantry.
Wm. H. Battle, Surgeon, Orange county, 31st Infantry.
J. J. Baxter, Currituck, 8th Infantry.
James A. Bizzell, Surgeon 20th Infantry.
Kenneth A. Black, Assistant Surgeon 3d N. C.
Julius C. Blackney, Assistant Surgeon 61st Infantry.
W. J. Blow, Surgeon, 1861.
Wyatt M. B. Brown, 17th Infantry.
Wm. J Busbee, Assistant Surgeon, Wake county, 31st Infantry.
H. F. Butt, Surgeon, Pasquotank county.
J. A. Bynum, Surgeon 44th Infantry, Pitt county.
Julius A. Caldwell, Assistant Surgeon, Rowan county.
Wesley M. Campbell, 7th Infantry, Statesville.
Isaac G. Canaday, Assistant Surgeon 55th Infantry, Granville.
Benj Chears, Assistant Surgeon 48th Infantry, Union county.
Benj. A. Cheek, Assistant Surgeon 12th Infantry, Warren county.
W. H. H. Cobb, Assistant Surgeon 2d Regiment, Wayne county.

Lucius C. Coke, Assistant Surgeon 1st Infantry.

W. A. Collett, Assistant Surgeon 6th Infantry, Burke county.

Wm. J. Courts, Surgeon 45th Infantry, Rockingham county.

Cader G. Cox, Assistant Surgeon 56th Infantry.

F. Cox, Assistant Surgeon 28th Infantry.

J. T. F. Cumming, Assistant Surgeon 68th Infantry, Alamance.

Peter Custis, Surgeon 31st Infantry, Craven county.

James H. Darden, Assistant Surgeon 38th Infantry, Sampson county.

J. E. Douthitt, Assistant Surgeon 21st Infantry.

W. A. Duggan, Assistant Surgeon, 1861.

A. E. Eves, Assistant Surgeon 59th Cavalry.

S. Eves, Assistant Surgeon, 66th Infantry.

James F. Foulkes, Surgeon 52d Infantry.

Josiah C. Fowler, Assistant Surgeon 47th Infantry.

T. S. Fox, Assistant Surgeon 66th Infantry.

J. R Fraley, Assistant Surgeon 7th Infantry.

Wm. Gaither, 26th Infantry, Burke county.

F. M. Garrett, 30th Regiment, Halifax county.

Charles J. Gee, Surgeon 1st Regiment Infantry, Halifax county.

Benj. T. Green, Surgeon 55th Infantry, Franklin county.

Simon T. Green, Surgeon 46th Infantry.

William J. Green, Assistant Surgeon 44th Infantry, Franklin county.

Charles Gregory, Assistant Surgeon 30th Infantry, Edgecombe county.

Hamilton Griffin, Surgeon 60th Infantry.

W. W. Griggs, Assistant Surgeon Steamer "North Carolina."

James K. Hall, Surgeon 12th Infantry, Greensborough.

James R. Hall, Surgeon, Davidson county, 22d Infantry.

J. W. Hall, Surgeon, 1861.

W. H. Hall, Assistant Surgeon, 1861, Wilmington.

John G. Hardy, 6th Infantry, Burke county.

Wm. B. Harrell, Surgeon 15th Battallion cavalry.

C. A. Henderson, Assistant Surgeon 6th Infantry, Rowan county.

Francis M. Henderson, Assistant Surgeon, 1861.

A F. Henry, 75th Cavalry.

James Hickerson, Surgeon 37th Infantry, Wilkes county.

Lauriston Hill, Surgeon 53d Infantry, Stokes county.

L. H. Hill, Assistant Surgeon 53d Infantry.
William D. Hilliard, Asheville, Surgeon.
William L. Hilliard, Surgeon 9th Cavalry.
Harvey L Hines, Assistant Surgeon, 1861.
George M. Hoke, Surgeon 1st Battallion.
W. A. Holt, Surgeon, 1861.

READING NOTICES.

Epilepsy.—In a case of epilepsy of several years standing I have used Peacock's Bromides with perfect satisfaction to myself and patient. It controls the spasms perfectly, and seems to agree well with the stomach. W. E. Postle, M.D.
West Jefferson, Ohio.

Ale and Beef Peptonized.—It is truly astonishing how rapidly this article, brought out by the suggestion of the world-renowned Fothergill, has grown into the good-will and favor of the medical profession throughout our land. Physicians inform us that the article is of great value to nursing mothers, is most useful during the period of gestation, as it is not only strengthening to the digestive organs, but allays the vomiting that affects so many. The *Ale and Beef* is endorsed by so many of the most eminent among the medical profession, that it is with pleasure we call particular attention of our readers to the article.

Happy and content is a home with "The Rochester;" a lamp with the light of the morning
For catalogue, write Rochester Lamp Co. New York.

Dr. N. M. Gray, of Allegheny, Pa., says: "I have tried Papine in two cases, and with the best effects. Both were cases of children from one to three years old, and both so complicated with cerebral trouble that I feared to use opium or any of its preparations, and yet I wished for an anodyne to control some very marked symptoms. So I tried the Papine, and am happy to say that it had the desired effect, without any of the unpleasant consequences so often following the use of the drug in any form I have heretofore used. I think it an excellent preparation for that class of diseases, and intend to use it hereafter.

SYR. HYPOPHOS. CO., FELLOWS

ontains the Essential Elements of the Animal Organization —Potash and Lime.

he Oxydising Agents—Iron and Manganese;

he Tonics—Quinine and Strychnine;

nd the Vitalizing Constituent—Phosphorus; the whole combined in the form of a Syrup, with a **Slightly Alkaline Reaction.**

t Differs in its Effects from all Analogous Preparations; and it possesses the important properties of being pleasant to the taste, easily borne by the stomach, and harmless under prolonged use.

t has Gained a Wide Reputation, particularly in the treatment of Pulmonary Tuberculosis, Chronic Bronchitis, and other affections of the respiratory organs. It has also been employed with much success in various nervous and debilitating diseases

ts Curative Power is largely attributable to its stimulant, tonic, and nutritive properties, by means of which the energy of the system is recruited.

Its action is Prompt; it stimulates the appetite and the digestion, it promotes assimilation, and it enters directly into the circulation with the food products.

The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; *hence the preparation is of great value in the treatment of mental and nervous affections.* From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

NOTICE—CAUTION.

The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, **finds that no two of them are identical,** and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, **in the property of retaining the strychnine in solution,** and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. **Fellows.**"

As a further precaution, it is advisible that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

Medical Letters may be addressed to:

Mr. FELLOWS, 48 Vesey Street, New York.

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IN EXTRACTS OF MALT QUALITY And STABILITY ARE OF THE HIGHEST IMPORTANCE.

AN EFFICIENT DIGESTIVE.

A CONCENTRATED NUTRITIVE.

MALTINE NEVER CONGEALS.

IN Gastric Affections and Debilitating Diseases, so prevalent during the Summer, Maltine with Pepsin and Pancreatine, and Maltine with Phosphate Iron, Quinia and Strychnia will be found exceptionally valuable, their base being a powerful Reconstructive and Digestive.

An eight ounce bottle of each will be sent upon application to any physician who will pay expressage.

The Maltine Manufacturing Co.
19 Warren Street, New York.

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MEDICAL JOURNAL.

THOMAS F. WOOD, M.D.,
GEO. GILLETT THOMAS, M.D., } Editors.

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ORIGINAL COMMUNICATIONS.

PRESENT STATUS OF BRAIN SURGERY BASED ON THE PRACTICE OF PHILADELPHIA SURGEONS.

By D. Hayes Agnew, M.D., Philadelphia.

(Read before the American Surgical Association.)

What is the present position of brain surgery, and what practical lessons can be deduced from a review of the recorded results in this department of surgery? The object of the author was not to glean the entire field, but to confine himself to the work done by Philadelphia surgeons in trephining for epilepsy, traumatic and Jacksonian, intra-cranial abscess, hemorrhage, hydrocephalus, cephalalgia, microcephalus and neoplasms.

Traumatic Epilepsy.—Fifty-seven cases were recorded. Of this number 41 recovered from the operation, 4 died, and of 12 the result is not given; 32 experienced temporary relief, 9 obtained no benefit, 4 passed out of observation, and 4 were operated on too recently to permit of the result being determined, and 4 are reported cured. In 1 of the cases reported cured the patient has been free from attacks for twenty-eight months, in 2 for ten months, and in the fourth a branch of the great occipital nerve was found imprisoned in the zone cicatrix. While the result in these cases have not been satisfactory, it by no means follows that surgery holds out no hope against epilepsy. It is not saying too much to assume that surgery is responsible for the great majority of traumatic epileptics, though this statement does not by any means criminate the surgeon of an early day. Whenever the profession can accept the doctrine that all depressed fractures, however slight the depression and entirely irrespective of pressure symptoms, are proper subjects for trephining, then will traumatic epilepsy largely disappear from the list of surgical diseases. It is not improbable, in view of the greatly diminished risk of trephining, that the operation will be extended even to cases of simple fracture or fissure of the skull.

Jacksonian Epilepsy.—The table contains 14 cases. In all the discharging centre was removed. Nine recovered and 4 died. Of those recovering 3 had less frequent and less violent attacks, 1 realized slight benefit, 1 disappeared shortly after operation, and in 2 no benefit was observed, 1 is reported as cured, and in that case the operation was done during the present year.

Abscess.—Eighteen cases of this nature have been collected; 6 had had fracture of the skull, 2 had syphilitic necrosis, in 1 a foreign body had entered the brain, in 9 the abscess was due to middle ear disease, and in 2 there had been a severe blow without fracture of the skull. All the patients died in less than fourteen days.

Five cases of trephining for intracranial traumatic hemorrhage are recorded. In each instance the symptoms necessitating operation developed within twelve hours after the reception of the injury. Four of the five cases recovered, not only from the operation, but with the restoration of the suspended functions.

Of trephining for acute and chronic hydrocephalus 5 cases are reported. All the cases died, 1 living to the forty-fifth day. As hydrocephalus is usually due to tubercular disease or to morbid growth, it is difficult to understand on what ground such operations are undertaken.

Cephalalgia.—Five cases are given, in each of which the focus of pain was referred to the neighborhood of a scar on the scalp. In 4 of the cases complete relief was afforded.

Trephining for Microcephalus.—Seven cases are reported, of which 4 died and 3 recovered from the operation. One of the deaths, however, was due to scarlet fever, occurring shortly after the operation. The result in the successful cases is reported as "moderate improvement." From the results obtained from the education of idiots, the author thought it wiser to relegate these unfortunates to special training schools rather than to the trephine and rongeur. The debatable cases would be those accompanied with athetosis, in which condition some improvement might be obtained.

Brain Tumors.—Only 4 operations for brain tumors have been done by Philadelphia surgeons. In 1 the growth was a fibroma weighing four ounces. The operation was done by Dr. Keen, December 15th, 1887, since which time the patient has had only six epileptic seizures. In the second case, done by the same operator, the tumor was in the occipital lobe and not removable. The patient died the following day from shock and hemorrhage. In the third case no tumor was found, and in the fourth a cyst occupying the cuneus was found and emptied. The patient died in thirty-six hours, and at the autopsy a large sarcoma was found occupying the temporo-sphenoidal lobe.

The deductions presented by the author are as follows:

1. That all fractures of the skull attended with depression, however slight, and entirely irrrespective of symptoms, should, in view of the late after effects, be subjected to the trephine.
2. That trephining for traumatic epilepsy promises only palliation, at best.
3. That trephining for Jacksonian epilepsy is to be regarded as only affording temporary benefit.
4. That trephining for abscess, in view of the fact that all such cases left alone almost invariably terminate fatally, is entirely proper, and that the earlier such operation is done the better.
5. That trephining for intracranial traumatic hemorrhage is both an imperative and highly promising operation.
6. That trephining for cephalalgia or traumatic medical measures having failed, should be undertaken with every prospect of success.

7. That trephining for hydrocephalus is a useless operation.

8. That trephining for microcephalus independent of athetosis confers no credit upon surgery.

9. That it is more than probable that, as our observations multiply, the sphere of the trephine as a preliminary for the removal of brain tumors will be lessened rather than be amplified.

DISCUSSION.

Dr. John Chiene, of Edinburg, did not take the same depressing view in regard to traumatic epilepsy. He referred to three cases in which decided benefit had followed operation. He agreed fully with what had been said in regard to operation in depressed fracture whether symptoms be present or not. As regards methods, he spoke of simple measures for locating the fissure of Rolando. The upper extremity may be located by means of a piece of string being one-half inch behind the middle. The angle may be secured by folding a square piece of paper into four around one of the angles. Three of these parts will give the proper angle. The purification of the scalp is a difficult matter, but may be accomplished by shaving and soaking with carbolic lotion for three days. For opening the skull he advised as safer than the trephine the gouge and mallet. For enlarging the opening the gouge forceps fill a useful purpose. For puncturing dura and the brain, he uses a Graefe knife. Hemorrhage from the bone may be checked by plugging with a match; bleeding from the brain, by hot water. Stress was laid upon the necessity of constant watching of brain cases and illustrative cases cited. In one case of supposed injury to the head (but which later proved to be a case of apoplexy), in which the patient was in a dying condition, great improvement, eventuating in practical recovery, followed trephining.

Dr. W. W. Keen held that every case of depressed fracture should be operated upon, even in young children. A blow upon the head not sufficient to cause fracture may produce laceration of the dura or of the cortex. In regard to linear fracture, however, he was disposed not to accept the view that operation should be performed. In regard to tapping of the ventricles, he thought that further experience and an improved technique would lead to better results. In epilepsy, he suggested the use of the bromides after operation had been done. In many cases of brain tumor where there is no hope of removing the growth, great comfort may be afforded the patient by removal of bone.

Dr. Charles B. Nancrede, Ann Arbor, reported cases in which cure had followed operation for traumatic epilepsy—in one the cure was of ten years duration. Often cases that are reported as failures soon after the operation, prove to be cures when followed for a longer time. The operation removes only one of the elements that is causing the epilepsy. In speaking of these operations he stated that hemorrhage from the skull could be checked by forcing in the diploe. In regard to simple fissured fracture, he asked how the diagnosis could be made.

Dr. Roswell Park, of Buffalo, differed from the author as regards the results of operations for epilepsy. He had himself had cases in which decided benefit was afforded. In order to determine the effect time must elapse so that the epileptic habit may disappear. The operation removes the anatomical cause, but ordinary therapeutic measures are needed to counteract the secondary conditions. Reference was also made to the relief afforded in brain tumors, even where the removal of the growth was not contemplated. He reported two cases of craniotomy for microcephalus in which benefit had followed.

Dr. H. C. Wood, of Philadelphia, thought that we should wait before coming to any conclusions as to the result of treatment either medicinal or surgical. He referred to one case in which under medicinal treatment the attacks remained absent for seven years and then returned. He advised that in these cases, before the contemplated operation was performed, a mock operation should be done and the effect noted. He cited cases in which such measures had been followed by benefit.

Dr. J. J. Putnam, of Berlin, thought that a simple smooth depressed fracture would not be likely to cause any symptoms : The irritation from a sharp spicule of bone probably will cause irritation. Probably the most important element in the causation of trouble is the result of the original injury to the cortex. The interstitial changes in the cortex takes the form of sclerosis, and it seems *a priori* doubtful that removal of the bone would materially affect it. The operation may not prove indifferent, for the cicatrization of the incised may lead to harm.

Mr. Thomas Bryant, London, had been much struck with the emphasis with which Professor Agnew had insisted upon the treatment to be followed in depressed fracture. As a practical rule he was disposed to agree with him, but there are certain exceptions, but he did not think it wise to encourage practitioners to trephine and elevate every case of depressed fracture. He could recall many cases of depressed fracture followed for years in which no symptoms followed. Depression of the lateral aspects of the skull are not so apt to be followed by symptoms, as depression of the vault of the skull. From these remarks, he said, it would naturally follow that he disagreed with the observation that in every case of fissure of the skull operation should be done. He wished Dr. Agnew had gone more thoroughly into the reason for this statement. If there has been no brain symptoms, although the blow may have been sufficient to cause fracture, it would not be wise to insist that we should at once proceed to explore to see if there is fracture. It is better to wait and watch for symptoms, being ready to operate as soon as there is a suggestion of something wrong. Although the risk of exploratory operation may be slight, yet it must be admitted that it is attended with some danger.

Dr. D. Hayes Agnew said : In traumatic epilepsy I did not condemn operation, but curative results should not be expected from it. Its result is only one of amelioration. He could not withdraw his statement made in the paper, for in many of the cases of traumatic epilepsy there has been no history of unconsciousness or other symptom. There has been a blow on the head and many years later epilepsy has appeared. It is impossible to determine the condition of the internal table of the skull by inspection of the external table. He had seen a simple crack in the skull with the internal plate forced downwards some distance.

Report of a Committee on the Results of Treatment of

SIMPLE FRACTURE OF THE SHAFT OF THE FEMUR

was read by Stephen Smith, M.D., of New York.

At the meeting of the American Surgical Association, held May 15th, 1890, the following preamble and resolution was adopted :

Whereas, In the treatment of fractures of the shaft of the femur, the question often arises as to what is a satisfactory result in a given case, therefore

Resolved, That a committee be appointed by the President, to report at the next meeting of the Association what, in their judgment, under the methods of treatment, should be considered as satisfactory results.

The following Committee was appointed: Drs. Stephen Smith, New York; D. Hayes Agnew, Philadelphia; David W. Cheever, Boston; D. W. Yandell, Louisville; Charles T. Parkes, Chicago: P. S. Conner, Cincinnati; Charles B. Nancrede, of Ann Arbor, and Hunter McGuire, Richmond, Va.

The question referred to your Committee has an important bearing upon the jurisprudence of surgical practice. One of the most frequent causes of prosecution of surgeons is the alleged maltreatment of fractures of the femur.

The following circular was forwarded by the Committee to the members:

"What should be considered as a satisfactory result (other than perfect union) in the treatment of a simple fracture of the shaft of the femur."

The Committee has reviewed the several questions raised and endeavored to secure a common ground on which the Association can take its position, and on which members can individually stand before the courts.

1. Bony union: The necessity of firm bony union does not admit of discussion. The amount of callus should not be taken as a criterion of the success of treatment.

2. Relation of long axis of the fragments: While it is the aim of the surgeon to restore the natural relation of the long axis of the fragments, yet it is generally impossible to secure exact apposition of the fractured surfaces, nor can the normal long axial line be restored with mathematical precision.

3. Correspondence of the anterior surfaces of the fragments: On this depends the position of the foot. The result of treatment to be satisfactory requires that the anterior surface be in the same planes.

4. Length of limb: This was formerly regarded as the test of success of treament. The records of the past show that shortening was the universal rule. The discovery of the natural discrepancy in the length of the lower limbs has considerably modified our estimate of this test—90 p. c. of healthy, uninjured persons have

lower limbs of unequal lengths. In 35.8 p. c. the right limb is the longer; in 54.3 the left is the longer. If the amount of shortening does not exceed the average natural difference in the length of the limbs, viz : about one-half an inch, the result will be in accordance with the laws of nature in the conformation of the lower extremities. If the shortening does not exceed the extreme limit of difference in the lengths of the natural limbs, viz : about one inch, the result should be considered satisfactory. An unsatisfactory result as regards shortening exists only when the amount of shortening exceeds one inch.

5. Lameness : This is a symptom of variable importance. Some will have a limp with one-fourth inch shortening, while others will not limp with one-half or one inch shortening. In many cases the limp disappears with time, or if it continues it is the result of careless habits of the patient.

6. Restoration of function : Essential to the function of the femur is strength of the femur at the seat of fracture, free and unimpaired action of the muscles and proper motion of the knee-joint. The determination of the degree of restoration of function cannot be made for at least one year after the cessation of treatment.

7. Conditional results : There is a class of cases in which our estimate of results must be based upon a careful study of the special circumstances connected with the treatment of each case. Results widely different from those already given must be regarded as satisfactory when we consider the circumstances under which the treatment is necessarily pursued. The treatment may have been conducted under circumstances in which it was impossible to secure proper apparatus, or the injury may have involved other parts so as to prevent the patient from taking the necessary position, or the patient may have suffered from delirium or other malady.

The following conclusions were presented. A satisfactory result has been obtained in the treatment of fracture of the shaft of the femur when—

1. Firm bony union exists.

2. The long axis of the lower fragment is either directly or continuous with that of the upper fragment, or the axes are on nearly parallel lines, thus preventing angular deformity.

3. The anterior surface of the lower fragment maintains nearly

its normal relation to the plane of the upper fragment, thus preventing undue deviation of the foot from its normal position.

4. The length of the limb is either exactly equal to that of its fellow or the degree of shortening falls within the limits found to exist in 90 p. c. of healthy limbs, viz: from one-eighth of an inch to one inch.

5. Lameness, if present, is not due to more than one inch of shortening.

6. The conditions attending the treatment prevent other results than those obtained.

THE INTER-CONTINENTAL AMERICAN MEDICAL CONGRESS.—At the meeting of the American Medical Association, held at Washington, May 5th, 1891, Dr. Charles A. L. Reed, of Cincinnati, introduced the following:

Resolved, That the American Medical Association hereby extends a cordial invitation to the Medical Profession of the Western Hemisphere, to assemble in the United States in an Inter-Continental American Medical Congress.

Resolved, That the Committee on Nominations be and is hereby instructed to nominate one member for each State and Territory, and one each from the Army, Navy and Marine Hospital Service, who shall constitute a committee, which is hereby instructed to effect a permanent organization of the proposed Inter-Continental American Medical Congress, and to determine the time and place at which the same shall be held.

Dr. H Longstreet Taylor, of Asheville, accepted the position on this Committee to organize the profession of this State in its interests. The task before the gentlemen composing the Committee is a very difficult one. In these days of multiplied meetings it is much easier than formerly to get together enough medical men to make a show of numbers, but it also becomes more difficult to get enough contributions of good scientific material to make a permanent impression upon the medical world. So much the more reason for work. The American Medical Association has officially endorsed it, and there can be no looking back. We do not know the plans of the Committee, but presume that they will be explained by the Secretary.

APPENDICITIS.*

By Dr. W. C. Galloway, Annual Essayist.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

I feel assured that you will pardon not only the brevity, but the lack of scientific matter and literary finish of this paper, when I express to you that I commenced and ended the work in some confusion of mind incident to breaking up an old and cherished home for a new and untried field.

As announced in the Journal, I have selected Appendicitis as the subject for discussion. This disease, described in olden times as an inflammatory tumor of the right iliac region, more recently as typhlitis and perityphlitis, has come into prominence only within the last decade. Since 1888 most of the leading journals in this country and across the water have elaborated the subject.

Druitt, in his volume, dated 1860, does not even mention it, and so good a surgeon as he certainly would have given it, at least, a passing notice, if he had deemed it worthy of recognition. Flint, in 1867, honors it with just one third of a page.

Dupuytren, September 27th, 1827, first wrote of it, not under the head of appendicitis, however, as a distinct and separate disease, During the same year Sanger Villermay also published several communications touching appendical affections. Puchett, shortly afterward, ascribed to it the name of perityphlitis. Willard Parker, as early as 1843, advocated early incision, and not only so, practised it. Oppolzer, about the year 1860 invented the name of paratyphlitis as an inflammation of the post-cæcal connective tissue. Kraussold, in 1881, boldly advocated the plan of early incision practised by Parker. Possibly there are some voluminous articles upon the topic previous to 1879, but in my researches I have found none. In 1881 Flint gives it not quite four pages. Loomis gives it five pages in his volume of 1884; Pepper nine pages in 1885; Gerster fifteen and Wyeth three and a half pages in 1890.

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*For discussion on this paper see June Journal.

Dr. Samuel Loyd, of the Post-Graduate Medical College, kindly sent me this year's April number of the Annals of Surgery, edited by Pilcher and Keitley, published in St. Louis, and to it I am largely indebted for new and varied matter.

From the early days of medical science until the advances made by Sims, Tate, Batty and others in abdominal surgery, the invasion of the peritoneum was looked upon in holy horror. It is said that the Indians aimed their arrows at the abdomen of their adversaries in battle, because experience taught them that, if the wound did not prove momentarily fatal, death usually followed in the course of a few days.

As the forests and rude huts give way to beautiful parks and magnificent cities before the steady and onward march of civilization, so the barriers of surgery are broken down and cleared away before the tireless and resistless sweep of pathological investigation and the cool, practised hand of the painstaking, accomplished surgeon. If there is no new thing under the sun, what in us is dark is certainly being wonderfully illumiminated.

As progress is the watchword in education, arts, etc., so it is in medical literature. No Lot's wives are tolerated in our time. We must keep in the current of the stream of improvement or look backward and die, or hibernate in blissful desuetude. The lighthouses along our coast guide our bold, sturdy mariners into ports of haven, and thereby prevent many shipwrecks. In like manner the great pioneers in our special field keep the lower lights burning that we may follow in the interest of humanity.

To Reginald Fitz, Gurdon Buck, L. A. Stimson, Charles McBurney, and several others, the profession owes a lasting debt of gratitude for their achievements in appendical surgery. Possibly McBurney has done more than any other surgeon to clear up the mists shrouding the vermiform deathtrap.

One-third of our entire adult population is said to have appendicitis at one time or another. Many are carried off yearly by it, and, no doubt, numerous cases go to "that bourne from whence no traveler returns" afflicted with this disease under a mistaken diagnosis. To show its ravages, it is only necessary to quote the following statistics :

Voloz	49	cases,	39	deaths.
Bamberger	73	"	18	"
W. T. Bull	67	"	33	"
Matterstock	70	"	49	"
With	30	"	12	"
Demme	36	"	27	"
Total	325		178	

The above statistics show a death rate of little over 54 per cent Older writers put it at 80 per cent. Under the opium treatment there has been a reduction to 30 per cent.; yet Bull's cases were reported in 1872, without operation, with a mortality of 47½ per cent. The number of deaths among children is greater than in adults. Any mode by which such a high mortuary report could be reduced meet our warmest approbation. Noyes, of Providence, mentions 100 cases in 1882, with operation, of whom only 15 died. As the disease becomes better understood the deaths diminish. McBurney, in his *early* laparotomies, has met with such phenomenal success, and has made the way so clear, that all of the doubting Thomases ought to take a journey to see the belly wounds and be convinced. He reports, in 1891, 24 operations. In all but 1 life was seriously threatened; 21 were males, 3 females; all were under 36 years of age. The appendix was completely removed in 22 of the cases. Partial removal was thought to be sufficient in 1, and in another removal was deemed unwise. All recovered but 1—a mortality of little over 4 per cent.

McBurney believed that, had the operation not been delayed in the patient who died, it would have been successful. Six cases were operated upon on the second day, 14 on the third day, 2 on the fourth day, and 2 at the end of one week.

Previous to the researches of Fitz, McBurney, Keen, Stimson and a few like seekers after the truth, the pathology of appendicitis was obtained principally through the channel of post-mortems, but, happily for mankind, these gentlemen, by their investigations upon the live subject, have demonstrated facts, hidden by long years of ignorance, which cannot fail to lessen the mortuary list in appendical disorders.

Statistics go to prove that males are more often attacked than females, and it occurs more frequently between the ages of 10 and 40; therefore this disease chiefly affects the bloom of life.

We might, I think, discard the old names of typhlitis, perityphlitis, paratyphlitis and extra-peritoneal abscess of the right iliac fossa, as they all originate almost exclusively from disease of the vermiform appendix.

Idopathic peritonitis, if it occurs at all, must be extremely rare; and, excluding that which arises in females, the vast majority of such cases may be traced to inflammatory processes in the appendix.

There are three varieties of appendicitis usually described :

1. Peritonitis appendiculoris adhesion, in which adhesions form in the peritoneum around the appendix.

2. Peritonitis appendiculoris localis, characterized by local peritonitis and primary abscess.

3. Peritonitis appendiculoris universalis or diffusion in which the general peritoneal cavity becomes involved.

The diagnosis is usually not difficult to make. Abdominal pain, of greater or less acuteness, is generally the first sign of approaching appendicitis. It may be referred to the whole abdomen, often to the epigastrium alone, and occasionally to the umbilical region. Only in about half the subjects does it commence in the right iliac fossa. After several hours, or may be a day, generally not longer than a day, the seat of pain is centred chiefly in the iliac region, when a correct diagnosis is easily arrived at. Some very few cases begin with a feeling of uneasiness or discomfort in the abdomen, which lasts several days before real localized pain is announced.

McBurney has given us a valuable diagnostic sign of pain elicited by firm pressure with the finger-tip at a point in the adult 1½ to 2 inches from the anterior superior spinous process of the ilium, on a line drawn from that point to the umbilicus. In children it may be found at a less distance, according to age. This sensitive spot is sometimes found a half inch or so nearer the pubis, or the area of sensitiveness may be a little enlarged.

From the first hours of the disease up to several days this sign may be clearly made out in *every case.* There is no other disease that presents this fixed and certain diagnostic feature; it therefore may be taken as pathognomonic. The accuracy of this sign has been demonstrated by McBurney in evey case operated upon by him. The painful point is just over the *base* of the appendix, and, for that reason, it is clearly defined whether the appendix is long or short, or points up or down.

In the late stages this sign is seldom found. A chill may mark the beginning of an attack, and vomiting is sometimes severe. In other cases one or both of these symptoms may be absent.

Except in very mild cases fever is present, which usually ranges between 100° and 103½°. Rigidity of the right abdominal muscles is quite constant. During the first day tympanites is nearly always present, and it may be slight or decided; but it may be entirely wanting in some cases of great gravity. As a rule, however, rapid and increasing distension is the forerunner of early dissolution. Within the first two days a tumor may or may not be felt. The appendix, when enlarged, may be recognized at a very early period. No tumor can be appreciated in the extremely mild cases, but, with rare exceptions, it can be detected by the third day.

The tumor consists of the enlarged appendix, or the appendix surrounded by thickened omentum or inflamed œdematous intestine, and may or may not contain pus. Percussion elicits dullness generally, but a tympanitic resonance may sometimes be noted when a portion of gut, distended with gas, lies immediately over the tumor. Coughing and over extension of the right leg give pain. Careful examination of the pulse is always necessary, as it expresses, uniformly, the amount of constitutional disturbance going on.

It will be seen that very signs are constantly present in the first twenty-four hours. Point pressure, sensitiveness over the base of the appendix, fever, accelerated pulse and rigidity of the right abdominal muscles are the most constant and reliable signs in guiding us to a correct diagnosis. Sensitiveness to pressure, as described, may be the only symptom in very mild cases. The use of the hypodermic needle or the aspirator is deemed inexpedient and hurtful. Seldom is anything gained by an examination of the rectum.

Pain alone is no indication of the gravity of any given case. In reference to treatment, an early diagnosis is of the utmost importance. During the first twelve hours there will be a great similarity of symptoms in many cases which undergo various changes as the disease progresses. Some may have intense pain with high fever, a deeply furred tongue, anorexia and vomiting, and are at once prostrated. Others will go about with little discomfort, nearly free from pain, with scarcely any or no fever, and pulse but slightly accelerated. Others, again, with no specially marked symptoms, will refrain from moving about because motion increases pain, and when they remain quiet they are fairly comfortable. Some, commencing with a chill, will have flushed face, a bounding, rapid pulse and high fever. All cases are important and should be seen often and carefully watched, because there is the beginning of an inflammation within the peritoneal cavity that cannot be immediately prognosticated, and time alone can inform us of results. We, however,, shall not wait long, for in the course of twelve or twenty-four hours many changes will take place which will determine our course of procedure. All of these demand absolute rest. Bland nourishment only should be administered. Anodynes should be used sparingly, but in sufficient quantity to give rest and comfort, if necessary. Vomiting should be promptly controlled. At this stage laxatives and enemas should be forbidden. Cold should be applied in some form over the inflammation, and for this purpose nothing is better than the India-rubber cold coil. Such a plan will frequently succeed in mild cases, and, right often, relieves those of a severer type, while others will go on from bad to worse.

When perforation takes place early, pain for awhile is distressing, and there is shock, more or less marked, followed by chill or fever, or both, extended pain, rapid pulse, vomiting and tympanites. Here we have the beginning of septic peritonitis. Perforation by fecal concretion, foreign body, or pent-up pus, may take place late in the disease, and, if adhesions have formed, throwing out a wall of protection, no special signs announce themselves, and usually an abscess results. Again, perforation may not occur at all, but pus may rapidly form, and, if adhesions do not exist, or exist imperfectly, so as to allow the pus to escape into the general peritoneal cavity, the signs of peritonitis will immediately supervene.

Perforation, with marked peritonitis, may take place within the first twenty-four or thirty six hours, but mild cases, for the same length of time, may begin to improve. To be positive in regard to many points of the utmost importance we must wait, but not too long, for, if we remain, as it were, "supinely upon our backs, hugging the delusive phantoms of hope" for six or eight days, many serious and momentous questions will be solved, because many of our patients will have died.

Fitz records 176 cases of perforative inflammation of the appendix. Sixty died by the end of the fifth day, 46 by the end of the fourth day, 28 by the end of the third day, and 8 on the second day. The cause of death on the third, fourth, fifth and sixth days is sepsis commonly, and fatal sepsis generally sets in, according to McBurney, from whom I have largely quoted, by the end of the third day.

When, then, should we perform laparotomy? Certainly before sepsis has begun, which will soon render the use of medicine a farce and an operation little better than an autopsy.

Would an operation be advisable on the first day, in order to avoid all subsequent danger? Nay, verily. Mild cases are quite numerous, and usually recover with the previous treatment laid down. Each case must be a law to itself.

If, in a given case, nausea ceases within twelve hours and tenderness on pressure has not increased, if the temperature remains normal, or nearly so, if the pulse is natural or but little increased, and if the patient moves in bed with ease, an early recovery may be anticipated. If, at the end of twelve or fourteen hours more, the symptoms remain the same, or there is but little change, the chances of recovery are improved. If, in two more days, no tumor has formed, and the general condition is better, the patient may be pronounced convalescent; but rest in bed should be enjoined for several days. At this stage of the trouble an enema sometimes hastens the cure. In other cases the disease is more grave. The fever will reach 102° in a short while, the pulse will be quick, nausea distressing, and the face becomes more anxious, yet these symptoms will not increase, and at the end of the twenty-four hours the general condition may be such that the mild treatment may be continued. Twelve hours more of waiting will develop improvement, or may be no change, or a worse condition. If better, treatment will be continued; if no material change, the same remedies will be used until the patient can be seen again, which should be done in a few hours. If the symptoms have become more pronounced, then an operation should be considered.

In all of these cases, which, at the end of thirty-six or forty-eight hours from the commencement, show decided indications of increasing disease, laparotomy for the removal of the appendix should be performed.

It is quite impossible to tell the signs of "impending perforation." If we wait for spreading peritonitis or the bursting of an abscess into the peritoneal cavity with marked tympany of the belly, we may operate with the happy assurance of a death soon to follow. By the end of thirty-six hours, sometimes earlier, the question of operation should be deliberately debated. After that time clear signs of advancing disease demand the surgeon's knife. Experince, always our best guide, has fully demonstrated the fact that there will be little danger of affecting the non-affected peritoneum in a laparotomy for the removal of the appendix. In these operations pus is frequently found in considerable quantity.

McBurney says that non-infected portions of peritoneum must, necessarily, in the course of such an operation, came in contact with sponges, instruments and fingers, and yet infection of the general cavity from such a source has not, in his hands, occurred in a single instance. The operation is a serious one and frequently difficult to perform, and only a good surgeon should undertake it. Of course every antiseptic precaution should be taken.

Before an operation is begun all the necessary instruments should be on hand, such as scalpels or bistouries, or both, artery forceps, scissors, retractors, needles, aneurism needles, etc., sutures, silk and catgut drainage-tubes, sponges, iodoform gauze, adhesive plaster, bandages, prepared bichloride and carbolic solutions, towels, etc.

The steps usually taken in the early stage, or after repeated attacks during the time of quiescence, is as follows: After anesthetization the patient is placed on his back on a narrow table. The lower limbs and chest are wrapped in a blanket or warm covering and the abdomen left exposed. Rubber sheets may or may not be placed over the blanket and turned under. If used, they should be dipped in a bichloride solution. The abdomen being shaved, is scrubbed with soap and water, then with water, and afterwards with alcohol or æther. The abdomen is then covered with towels wrung out of a tolerably strong bichloride solution, except over a space sufficiently large for operative work. The operaror, after thoroughly washing his hands and arms, and having his instruments carbolized, places himself on the right side of the patient, and, beginning as high up as the umbilicus, cuts downwards four or five inches through skin and subcutaneous tissue just external to the right rectus muscle. He then divides the aponeurosis of the external oblique for nearly the same distance. Bleeding is now arrested, and the fascia outside of the rectus is severed. The peritoneum being exposed, the upper part is pinched up and opened downward with the scissors or knife, guided by two fingers of the left hand. Care should be taken not to wound the epigastric artery and vein which lie a little to the inner side of the lower part of the incision. The small intestines are carefully pressed upward and toward the median line and held back with flat sponges and folded napkins, supported by retractors or the fingers of an assistant. If the appendix should not be visible, the cæcum is raised and the appendix is sought. If found to be free and with only normal attachments, it is raised and an aneurismal needle, armed with a double catgut ligature, is passed through its mesentery close to its base and cut in two. One is tied around the mesentery and the other around the appendix. The mesentery is divided back from its free edge with scissors to opening through which the ligatures passed. Two small sponges on handles are pressed down to the root of the appendix to absorb escaping pus, if any should be present, and the appendix is cut away close to the ligament. The sponges are held in position and the mucosa of the stump is seared with pure carbolic acid on a pledget of cotton attached to a probe, or with the Paquelin cautery. If the appendix cannot be found on account of adhesions, it should be searched for and found by palpation. A valuable guide to its base is in the longitudinal bundles of unstripped muscle on the front of the ascending colon which terminates below at the origin of the appendix. After finding appendix, it is freed from its adhesions by gently tearing them with a blunt instrument, or by cutting them, if thick, care being taken not to injure the intestines. Adhesions rarely need ligating, but should be tied if they do. The appendix, in a few instances, is found firmly united to the floor of the iliac fossa by a cord containing a small artery, which should be tied before being severed. Pus may or may not be met with in a fossa behind or to the outer side of the cæcum, or shut in by adhesions. As it wells up it should be caught on a sponge and the spot from which it flows should be thoroughly wiped out and washed with a small amount of a strong bichloride solution before proceeding to the removal of the appendix.

If the operation is done at a later period, and the appendix cannot be recognized on account ot its being imbedded in, and forming a part of, the wall of an abscess, no attempt should be made at removal, but we should evacuate the contents and keep up proper drainage.

When the abscess forms behind the lower part of the ascending colon, apparently between the layers of the mesocolon, or extends as far upward as the flank, a small opening should be made into it at its lower end, the neighboring intestines being protected by sponges and the pus removed on sponges. Likewise a counter-opening must be made in the flank above the crest of the ilium for drainage, cutting from without inward upon the finger as a guide. If the abscess extends far down in the true pelvis a counter-opening must be made through the rectum and a drainage-tube inserted to be brought out through the anus.

When there is no suppuration no cleansing will be necessary, except the wiping out of blood that has escaped the protecting sponges. If pus should escape largely into the abdominal cavity, flushing with water through a long glass tube will be required. The entire removal of the pus and complete cleansing of the cavity is not considered essential to a cure.

If no pus is found, the wound should be immediately brought together, using catgut for the peritoneum uninterruptedly, and silk for the deep and surface sutures.

If pus is discovered, the cavity should be drained with India-rubber tubing, around which iodoform gauze should be packed down to the bottom of the pus cavity. The gauze should be removed on the second or third day, but the tube should remain in some time longer. Some advise taking a stitch or two in the upper and lower ends of the wound; others to keep it entirely open for several days. When fecal concretions are present the wound should be kept open and the gauze packing used, with or without the drainage-tube.

Though I have written hastily and not satisfactorily to myself, and therefore prosily for the Society, yet, if I shall have awakened interest and thought upon this exceedingly important subject, I shall feel amply repaid for any labor bestowed upon it.

REPORT ON MICROSCOPY AND PATHOLOGY.

By A. Anderson, M.D., Asheville.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

Last year, when I was appointed Chairman of this Section, it was not known to me then, nor is it fully known yet, the great importance of this Section to the practice of medicine. Would the power were mine to make you all sensible to, and active in, this branch of our profession.

To be well acquainted with the vital phenomena of diseases in the human body is either the proud distinction of the pathologist or the goal of his ambition. The aim of the pathologist is to find out the original cause, the progress and termination of any and all diseases which he studies.

For the last decade the growth of the pathologists has been rapid, both in the proficiency of individual workers and the multiplication of the laborers.

I am impressed with the fact that during this year there has been more progress and interest in the Section I report than any previous year. It is feared that the universal discussion by the lay press of the discovery of that great leader in bacteriological work has done damage. I am glad to say that the science stands firmly upon its pedestal, and my information from the best authorities is that no well-informed man within our ranks, abreast with the times, but says: "Watch the microbe." Then let us be grateful to the All wise that the sum of this science is up and rising to the zenith "with healings in his wings."

But, gentlemen, have we not those within our ranks who, in their impatience for practical therapeutical results to them, cry out: "What good is there in all this tiresome labor?" And because it takes microscopical knowledge to open their eyes that they may see "the regular and exclusive occurrence of bacteria in particular diseases," they cry down methods and men: "Away with them, and release unto us Barabbas"—the microbe. I say unto such men: "Refrain from these men and let them alone, for if their work be false, it will come to naught, but if it be true, ye cannot overthrow it."

But the study of bacteriology has not been fruitless. We see the outcroppings of truth that have been as beacon lights to the proper selection of antiseptics. No less authority than T. Gaillard Thomas, of New York, counts antisepsis as the greatest of medical agencies inasmuch as it saves 49 women from puerperal fever out of 50 that would have gone to their graves from this fever ten years ago. What hygiene has done for civilization is most astonishing when we think of the horrible epidemics in ancient and mediæval history, raging amid the cities of the old country, lasting for thirty years and carrying to the grave nearly 100,000,000 lives.

In the early diagnosis of a single case of cholera we can by isolation prevent an epidemic. In the early diagnosis of consumption, if we cannot cure it by Koch's lymph, we stand a better chance (100 to 1) of curing by the old methods of hygiene and proper diet.

The following conclusions from Koch should satisfy any doubting Thomas as to the correctness of the germ theory :

1. That the parasite is present in every case of the particular disease under conditions corresponding to clinical causes and pathological changes.

2. That it occurs with no other disease as an accident or harmless organism.

3. That when taken from the body and artificially cultivated for a long time, it can produce the disease anew.

If these three don't prove the causal relation of parasite and disease, what more can we ask for ?

The question of immunity can only be answered by bacteriology, and while it remains yet unanswered, it is believed by Koch that we have to look to chemism rather than to the strife between cells and organisms to solve the question.

Nothing during the year has been said to disprove the assertions of Pasteur as to the efficacy of his preventive inoculations, but on the other hand many things point to the absolute demonstration of the fact that there is protection in the procedure advised by him.

Chalmogoroff finds that the umbilical cord at birth is entirely free from bacteria, and that the application of gypsum powder is the best protection for the stump.

There are three or four interesting theories upon the subject of immunity to which I wish to call your attention. That of Lounais, that the envelope of the lymphatic gland becomes hardened by an attack of a disease, and after that infectious agents cannot do harm because they cannot enter the system through their usual portal—the lymphatic ganglia.

Buckner's theory is that the organs are left in an unsuitable condition for growing bacteria—this condition being produced by some change, probably inflammatory.

That of Grawitz, that since bacteria and body cells get their nutrition from the same places, there is consequently a fight for this nutrition. If the cells gain the victory, it is their peculiar function to transmit their victorious spirit to succeeding generations of body cells by heredity.

Bacterio-therapy is studied by Codogan-Mastermann, and his conclusions, in brief, are these:

1. That there is an antagonism between certain, if not all, bacteria.

2. That an organism cultivated in a nutritive medium renders the medium unfit for the same or other organisms to live in.

3. That the new science assumes two forms: (*a*) Bacterio-prophylaxis and (*b*) Bacterio-therapy. The first is best known and is now in successful use. The second, used in animals experimentally, "still awaits chemical sanction for its use in man."

4. "Experiments on the question of prophylaxis, conferred by substances generated by the vital energy of micro-organisms in media in which they have lived, give the key to what may be, in certain cases, the mechanism of bacterio-therapy and may foreshadow what it is destined to effect in the future."

Buckner and Nuthal have shown by their experiments the germicidal action of blood. Both freshly-drawn and defibrinated blood have a destructive influence on bacteria, and especially the pathogenic.

Much has been learned about the biology of bacteria. Uffelmann discovers that the typhoid bacillus "has a most remarkable resisting power to drying when in the stools, in some cases extending over four months." Rodet shows that it may be isolated by living after other bacteria have been destroyed at a temperature of 112° to 113° F. This bacillus, according to C. Paul, is prevented from developing by corrosive sublimate (1—20,000), sulphate quinine (1 to 800), carbolic acid (1 to 200), hydrochloric acid (1 to 100).

In case of the bacillus of diphtheria—Loeffler's bacillus has been definitely fixed upon as the essential germ—Chantlemesse and Widul state "what will most easily and effectively destroy this bacillus." The only three substances which actually checked and destroyed its vitality, were phenic acid (5 per cent.), camphor (20 per cent.), olive oil (25 per cent.), in combination.

Kitasato cultivated pus from a patient suffering from tetanus at 96.8° F. for a time, and the development was all right. He raised the temperature to 176° F., at which degree the other bacilli were killed, but the spores of the tetanus remained alive. Then by keeping these plates of spores at a temperature of 64° to 69° F. in an atmosphere of pure hydrogen, pure cultures of Nicolaier's bacillus were obtained. It takes a temperature of 212° F. for five minutes to destroy this bacillus.

Not many months ago Drs. Vaillard and Vincent made some assertions worthy of notice in connection with this bacillus. They say that the essential poison which produces tetanus develops after the bacilli have reached the stage of spores, but the spores themselves are not the poison. Nor is the poison a ptomaine, an alkaloid or base. They show that the bacillus cannot grow in the body "without the presence of another micro-organism," and therefore the disease is one of mixed infection.

Loewenthal claims to have demonstrated that salol has a toxic action on the cholera spirillum. Kitasato says in regard to this bacillus that no form of bacteria will grow in ordinary nutrient media with this germ—it being "quickly and certainly killed out: but there are some, one of which is the anthrax bacillus, that are killed by it. Uffelmann states that this germ lived four days in fæces, and that i thrives better at a temperature of 61° F. than 48° F.

There is something worthy your notice in regard to the streptococcus of erysipelas—facts obtained and thus summarized by Manfredi and Travera: "That both clinical and experimental evidence teach the extreme ease of a renewed attack of the disease; that it is possible to kill guinea-pigs by an intoxication, when they are, as a rule, immuned to an inoculation of the culture in ordinary quantities; and this fact should warn the experimenters trying to obtain immunity in man by the inoculation of non-pathogenic bacteria, because the same result may be reached—the unexpected intoxication of the system. "That fever is a fermentation produced by a diastase, or soluble ferment elaborated by all micro-organisms and cells, and which they use in attacking and transforming matter, either inside their substance or out of it," is a new theory suggested by Roussey.

The motility of micro-organisms Ali-cohen has apparently settled, and shows that this motility is distinctly different from the "so called Brownian movement."

The conclusions on puerperal fever are that the fever is attributable to two sets of causes—one of pathogenic bacteria penetrating into the genital tract, producing specific cases, and the other of ptomaines, the product of certain putrefactive and non specific bacteria—these ptomaines being absorbed into the circulation

It has been very well established during the year that the pneumo-bacillus of Fraenkle, and not that of Friedlander, is the true one.

Itschosty says some things to which I wish to call your attention about the relationship of the bacilli of tuberculosis to the cells :

1. "That the wandering cells in the blood and lymph currents destroy living and virulent bacilli by phagocytosis.

2. They also carry the bacilli from the blood-current to the tissues and set up tuberculosis or tuberculosis infiltration.

3. The bacilli containing giant cells are the result of the breaking up of the nuclei of the lymphoid cells containing bacilli

4. It is not usual for the giant cells to be the result of the breaking up of fixed cells.

5. The giant cells hinder the natural development of the bacilli and give rise to certain involution forms (granular c ndition, changes in string reaction) that are not seen in giant cells—these latter are also phagocytic.

6. The primary epitheloidal tubercle is not derived from the lymphoid tubercle, but they can both come from the bacilli containing lymphoid cells—the rapidity of the change depending upon the susceptibility of the animal to tuberculosis.

7. Whether the primary epitheloidal cell-tubercle can change to the fixed tissue cell form is doubtful, because it is doubtful whether a non-motile bacterium can change to a fixed cell.

8. The amæboid motion of the tissue cells and the mobility of the endothelial cells are responsible for the occurrence of tubercu-

losis by their embracing and the absorption of the lymphoid cells. How far they aid the process by taking up the bacilli is not certain, but they are ultimately like the cells in the blood—phagocytic.

Ersnt has shown that tuberculosis can be transmitted through the medium of milk from tuberculous cows, whether there is any sign of a lesion or not on the udder, and this is not rare, but more common "than would be easily believed."

There is nothing definitely known about the parasitic cause of the most infectious diseases, such as small-pox, measles, scarlet fever, etc. Koch is inclined to think that they are not very probably caused by bacteria, but by organisms of far different character, and whenever work is earnestly commenced in other directions, perhaps something will be found out definitely.

As to scarlatina, a Russian woman (Roskina), has examined 86 cases from a hospital clinic. The streptococcus which she discovered is described as follows: "It is in long chains of 20 to 25 ♏. and nearly all of the same size, varying in the chain according to the soil, as in otorrhœa, etc.: in cultures the size varies much. It grows with medium rapidity and forms round brown colonies on agar-agar at the temperature of the body. Its weak vitality is its special characteristic, varying in different media, being from ten days to a month on agar-agar and from three to five days on gelatine, and in this respect is its only difference from the streptococcus of erysipelas." If there be any practical good in her work, it is yet wrapped up in her theories.

Wurg has demonstrated the presence of leucomaines in the blood, two of which, methylamine and plasmaine, he has studied—these being of interest because of their connection with the elimination of oxygen.

In the Section I report there are necessarily a great many hypotheses gotten up, and in my opinion it is worth our while to record and study them, for if they be not the direct steps to "knowledge reduced to a system," we can reasonably assure ourselves they are the indirect, and will finally lead to the rock-bottom facts. I can join heartily in the wish of Prof. Robert Koch, "that the strength of the nations may be directed against these most minute and dangerous enemies of the human race, and that in this combat for the good of man one nation after another may be preëminent."

REPORT ON SURGERY.

By O. McMullan, M.D., Elizabeth City, N. C.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

At the last meeting of this Society, held in Oxford, I was appointed by our honored President as *Chairman of the Section on Surgery*, and requested to make my report at this time.

As I understand the duties of this office, they are to make faithful report of all those transactions of a surgical nature, embodying a real and permanent interest, which have transpired throughout the world during the year now drawing to its close.

The field I am called upon to explore is almost limitless in its extent, and fertile with a vast fund of interesting facts, discovered and elaborated by that army of surgeons, who, patient, zealous for scientific fact, and tireless in their industry, are garnering, from year to year, from nature's secret recesses, fruitful discoveries both in the principles and the practice of surgery, adorning thereby and blessing the era in which they live.

Of necessity, from the great amount of material in view, I will be able to touch upon only the most salient and impressive facts, and even here the treatment will be synoptical rather than particular. This report will be an epitomized résumé of the advance in our art for the year 1890–'91, offered, not with the hope of giving to this learned body any facts with which they are not already familiar, but rather with the idea of furnishing a short, permanent history of surgical progress since our last meeting, for preservation in the archives of the literature of our Society, and for the purpose of reference and comparison in the years of the future.

Brain.—In no department of surgery has greater zeal been manifested, nor more painstaking and industrious investigation been exhibited than in the diagnosis and treatment of the surgical neuroses of the brain. Beginning, in the far past, with the extremities and more accessible regions of the body, the progressive surgeon has gradually, step by step, worked his way to the very penetralia of human anatomy, and to-day the "tripod of life" is invaded with a confidence which, only a little while in the past, would have been characterized as reckless temerity. The *terra incognita* has been slowly but surely contracted in its boundaries, until to-day the scalpel held by skillful hand, with the handmaidens of asepsis and antisepsis, has removed almost the last barrier, and the brain itself is explored for the detection and removal of disease, even to its very ventricles. Cerebral localization has been much and closely studied, and a better understanding of the significance and the invariability of focal symptoms has been acquired, enabling the operator to form a more accurate judgment of the area affected and of the nature of the disturbing element.

In all closed cavities the just estimation of pathological conditions is, of necessity, difficult; and especially is this true of the encephalon encased in its unyielding bony structure, and it is mainly through the aberrations of nervous manifestations reflected back to the focal areas from which they emanate, that the surgeon is able to proceed with precision to the offending pathological condition. Working along this line much has been done in brain surgery during the past year, and with fairly good results.

A successful case of removal of brain tumor has been reported by Drs. McCall Anderson and George Buchanan.

Dr. Reynier, at the French Surgical Congress, presented a girl 10 years old, in whom, from the sensori-motor epilepsy present, M. Charcot had diagnosed a probable lesion of the middle and lower parts of the Rolandic convolution. Trephining was performed corresponding to this diagnosis, and a cystic tumor was found at the lower extremity of the pre-Rolandic sulcus and extending into the gray matter. The tumor was removed at two operations, a period of five months intervening, with the result of a cessation of the epileptiform seizures, and a complete cure of the child.

Dr. Jaennel, in the *British Medical Journal*, relates a case of trephining for Jacksonian epilepsy, with marked improvement in the symptoms.

Dr. Girard gives the history of an epileptic woman who shot herself in the left temple with a revolver. The bullet, with some bone-chips, was removed, the wound stitched up without drainage, and was healed on the seventh day.

The patient not only recovered from the effects of the pistol wound, but the great epileptic seizures were relieved, and now, after five months, she only suffers with occasional vertiginous attacks.

Many cases of trephining for both traumatic and idiopathic blood-clot, in all possible regions of the brain, have been done during the past year.

Dr. Duret, of Lille, operated for extravasation upon brain surface with success, but the patient died on the twenty-fifth day, after a protracted alcoholic spree, with cerebral congestion.

Salzer, of Vienna, reports two cases of operation upon the cerebral sinuses for purulent thrombosis. The first case, having suffered with middle ear inflammation, gave manifestations of brain involvement. He was trephined over the base of the mastoid, and the brain, both temporal lobe and cerebellum, was explored for pus without success. The sigmoid sinus, found to contain a thrombus, was opened. The symptoms, however, did not improve, and upon autopsy a meniscoid abscess was found upon the convexity of the cerebellum, and the thrombus of the sigmoid sinus had extended to the sinus of the other side. The second case, a young girl, had suffered with otitis media chronica. Upon the supervention of cerebral symptoms the mastoid was opened, the sinus incised, and a thin, fœtid fluid evacuated. The case was rapidly cured.

Basing his opinion upon these cases, the reporter advises the incision of the sinus in all cases of purulent thrombosis, and even in simple thrombosis the incision should be made, if there be pus in the surrounding tissue, since it is impossible to say whether the thrombus be infectious, and by its removal the danger of pulmonary embolism is avoided.

Dr. Dennis removed a traumatic clot from the lateral ventricle. The patient died, not, however, from the opening of the ventricle, but from the original injury.

Two cases of rupture of the ventricle from compound fracture are given, both of which recovered with treatment by antisepsis and drainage.

In *Gaillard's Medical Journal* there is reported a case of trephining for non-traumatic, cerebral hemorrhage, with statistics of thirty similar cases, by Dr. Championnière. In all these cases there had been no deaths and no untoward occurrences. Dr. C's case had a cerebral hemorrhage twenty months before, and from that time there had been right hemiplegia with late contracture of hand and epileptic seizures. The aberrant, nervous symptoms pointed to the middle part of the pre-central convolution as the focal area implicated. The skull was opened at this point, and the remains of an old hemorrhage found and removed. The hemiplegia lessened, the hand contracture ceased, the speech became more distinct, the intelligence more clear, and the epileptic attacks have entirely ceased for four months.

The operation of *craniectomy*, the removal of a narrow strip of the osseous envelope of the brain, done upon microcephalic and backward children for the purpose of giving the cerebral tissues an opportunity to expand and develope, has been performed repeatedly in this country and in Europe. The procedure has been attended with a minimal mortality, M. Lannelongue reporting statistics of 25 cases with only one death, and that from septicæmia, and hence possibly avoidable. The symptoms of retarded brain developments, mental hebetude and epileptic crises, have been, as a general rule, greatly improved, thus giving, in the first years of its inauguration, an earnest of the capabilities and benefits of the operation.

Keen, in the *Medical Press and Circular*, August 20, 1890, reports three operations done by himself for effusion into the lateral ventricles, with two cases from Mayo Robertson. The first case was that of a boy threatened with blindness from acute hydrocephalus. A button of bone was removed one and a quarter inches behind left meatus and the same distance above Reid's baseline. A hollow needle was inserted into the ventricle, the cerebrospinal fluid drawn off, and a horse-hair drain inserted. The symptoms improved for a while, but again increasing in severity, a tumor of the cerebellum was suspected and exploration made accordingly. None was discovered. The right ventricle was then drained, rubber tubing being used on both sides. Twice the ventricles were irrigated, the fluid passing through the brain from side to side.

On the forty-fifth day after the first operation the patient died, and upon autopsy a sarcoma was found in the left lobe of the cerebellum, compressing the straight sinus, the veins of Galen, and encroaching upon the fourth ventricle.

The second case was a girl 3½ years old with hydrocephalus, dating from a few months after birth. Both ventricles were tapped and rubber drains inserted. On the next day convulsions occurred, but were relieved by a flowing in of warm water with a pressure of eight inches. Eight times the convulsions were thus relieved, but the child died on the fifth day. The third case was one of tubercular meningitis with unilateral, acute hydrocephalus, involving the ventricle. The foramen of Munro was closed. The ventricle was tapped through arm-centre and the child died four hours after the operation.

Mayo Robertson communicates the case of a child 10 years old, who suffered from aural discharge, rigidity of neck and twitching of right side of mouth. On admission to hospital there was pain in left side of head, paresis of right arm and leg, gradually growing into complete hemiplegia and aphasia. Through an opening over arm-centre an exploring needle was moved in various directions in search of pus. None was found. Finally the needle was passed into the lateral ventricle and one-half ounce of clear fluid withdrawn. The pulsations of brain, which were absent before the paracentesis, returned. The wound was closed without drainage, the hemiplegia and aphasia gradually passed away, and the child completely recovered.

The second case, by same author, was one of increasing hydrocephalus. A rubber drain was inserted into the ventricle, the amount of discharge was large, and the child died in convulsions on the third day.

From the foregoing cases the general conclusions are reached :

1. In case of rupture of ventricle in compound fracture asepsis and drainage are indicated. In cases of rupture in simple fracture no interference is permissible, unless serious pressure results arise, in which case the fluid should be drained away gradually by means of horse-hair or some other slow method.

2. Abscess of brain rupturing into the lateral ventricle should be treated by immediate evacuation, irrigation and drainage through a bilateral opening. This is a forlorn hope, but merits a trial.

3. In acute effusion, tapping, without drainage, will save some lives otherwise doomed to be lost, and in chronic cases slow drainage is indicated.

4. Irrigation of brain must be either by an artificial cerebro-spinal fluid, or by an unirritating and innocuous antiseptic.

5. Convulsions, due to rapid withdrawal of cerebro-spinal fluid, may be checked by irrigation, under gentle pressure, with a warm, non-irritant fluid.

6. In blood extravasation into the lateral ventricles, at least when of traumatic origin, instant trephining should be done, and in some cases will result in cure.

Reasoning from analogy, as many surgeons have done, it would seem as legitimate and feasible to tap and explore the ventricles—since the intervening cerebral tissue can be pierced with comparative impunity—for hydrops, purulent accumulations, hemorrhages, etc., as the peritoneal and pleural cavities. But there are impediments which, possibly, will never be entirely overcome, even with the most improved operative technique. In the first place, the brain being encased in an unyielding, bony envelope, atmospheric pressure is not free to exert that equalizing influence over the circulation as in other cavities of the body with a flexible environment. When the fluid is withdrawn from the inner cavities of the encephalon, leaving them empty, nature abhorring a vacuum, they must be filled in some way, and this is evidently accomplished by dilatation of the cerebral circulation. Hence the reason for the convulsive seizures upon the removal of the fluid in hydrocephalus and the injunction to evacuate ventricular effusions in minimal quantities. In the second place, the delicate organization of brain tissue and the very vital importance of its functions renders it less tolerant of sudden changes in the relations of its component parts and in the rythmic harmony of its circulation

Lungs.—The lungs are becoming each year a more fertile field for the surgeon's knife, and operations for abscess, simple and tubercular, and gangrene are daily multiplying. Ramsey, in the *Annals of Surgery*, reports four operations upon the pulmonary tissue, three for abscess and one for gangrene. In the operation for gangrene an inch of the seventh rib was resected, the affected area, determined by an exploring needle, drained, and the patient made a complete recovery. The first case of abscess was consequent upon gunshot. Pneumothorax existed. A portion of the third to seventh ribs inclusive was resected, the abscess drained and the patient cured. The third case was treated in the same way, but, unfortunately, multiple abscesses were present, and the patient succumbed to septicæmia. Many operations have been reported upon tubercular abscesses, treated both by incision and by the intra-pulmonary injection of iodoform and other antiseptic, but unirritating, medicaments.

Abdomen.—In this department of surgical work more activity has, perhaps, been displayed than in any other, but little, however, has been added of real and permanent interest since our last meeting. The operation of "intestinal anastomosis" by the decalcified bone-plates of Seun, or the catgut rings of Abbe, is fast taking the place of the old operation of resection.

Dr. Robert F. Weir, in the *Medical Record*, January 10, 1891, reports a case of pylorectomy with gastro-enterostomy, performed by the aid of Abbe's ring, for pyloric stenosis. The operation was a permanent success. Dr. W. T. Bull, in the same Journal and date, reports three cases of pylorectomy with gastro-enterostomy done for cancer of the pylorus. In these cases the cut ends of the stomach and duodenum were stitched up and left as cul-de-sacs, the upper part of the jejunum being joined directly with the stomach by means of "intestinal anastomosis." Two of Dr. Bull's cases died from faulty technique in the manner of performing the operation, which, he thinks, can be easily overcome in future cases. The conclusions drawn from these cases are:

1. The operation of "intestinal anastomosis" for pyloric stenosis is preferable to Loreta's method of dilatation on account of the greater mortality of the latter—40 per cent.—as compared with the former—11 per cent.—and on account of the disposition to recontraction of dilated ring.

2. "Intestinal anastomosis" is to be preferred in malignant tumors, since, on account of the amount of tissue necessarily sacrificed, it is very difficult to fit the duodenum to the cut end of the stomach, and because the duodenum is frequently only partially covered with peritoneum it would be impossible to procure an approximation of serous surfaces throughout the whole extent of the circular wound.

3. In the operation of "intestinal anastomosis" by bone-plates or catgut rings there is procured firm coaptation of the surfaces, the procedure is quickly accomplished, and the opening from stomach to jejunum is equally well preserved if made sufficiently large in the first instance.

T. B. Robinson, in the *North American Practitioner*, Vol. XI., No. 10, p. 451, describes a new plate for intestinal "anastomosis," which he has used with great success in experimental operations upon dogs.

The objection to Senn's bone plates is the length of time consumed in their preparation; to Abbe's catgut rings, Davis' catgut mats and Brokaw's segmented rubber ring is that they do not coäptate sufficient surface, and, becoming macerated, yield. They do not keep the bi mucous fistula sufficiently patulous to prevent contraction, nor do they procure that absolute rest of wound surface which insures healing. The plates, the author advises, are a "combination of a ring of catgut fastened to a plate made of two pieces of rubber. The two pieces of rubber are stitched together at each end with catgut, and the ring is sutured to the side of the rubber plate with catgut sutures. The needle-armed sutures of the catgut ring are inserted through holes cut in the rubber plate. A triangular piece is cut from each approximating edge of segments composing the plates to admit of fecal circulation." The above is Dr. Robinson's own description, and with the plates thus prepared he claims that large surfaces are coäptated firmly and persistently, and that finally the plates are readily absorbed and easily discharged.

Transplantation of Tissue.—Skin-grafting after the method of Theirsch is growing gradually into favor, and is fast superseding, especially where large surfaces are to be covered, the minimal method of Riverdin. Senn's method of bone repair in cases of osteo-myelitis, by packing the cavity, from which the sequestrum has been removed, with decalcified bone chips, is now accepted by the profession as an orthodox surgical help.

William H. Sherwood, of Ohio, relates a case of transplanting the femur of the rabbit for ununited fracture of forearm. After various unsuccessful attempts to procure bony union by other methods and by other surgeons, the author, having cut away all cicatricial tissue, and having fully freshened the ends of the bones to be united, wedged in between them thus prepared nine pieces of bone cut in transverse segments, one-quarter inch in thickness, from fresh femur of rabbit. The result was firm union without untoward symptoms except high surgical fever at the end of forty-eight hours.

The case along this line of most interest, perhaps, because of the notoriety given it through the secular press, is that reported by Dr. A. M. Phelps in the *Medical Record* of February 21, 1891. In this case it was attempted to transplant one inch of a dog's leg, into which entered the nutrient artery, between the freshened ends of an old, ununited and often-operated upon fracture in a boy. The operation was not a success as regards the final union of the bones, but it demonstrated, no doubt, the possibility of bone-grafting *en masse* when the mistakes of the intricate technique have been overcome and avoided, and the mechanical immobilization of patient and dog have been perfected. In this case, while bony union between the different species did not take place, fleshy union did, and there were evidences in the removed segment showing attempts made at osseous repair, and if complete rest of the approximated bone surfaces could have been secured, in all probability bony union would have been accomplished. No harm resulted to the physical well-being of either boy or dog. This operation, no doubt, with further elaboration, will become a great boon to humanity, for while the method of Theirsch is a great improvement over the minimal method of Riverdin, still martyrs must be found who are willing to be flayed in order that their friends may be repaired.

Aneurism.—Dr. William Macewen, in the *Lancet* of November 22, 1890, reports four cases of large aneurism treated by the formation of *white* thrombi in the sac. Being cognizant of the futility, often, of the formation of *red* thrombi in the sac by galvano-puncture and by the introduction of various foreign substances, instead of undergoing formation into firm fibrillar tissue, oftentimes shrink and degenerate into red and yellow softening with attendant septic emboli, Dr. Macewen arrives at the conclusion that the safest and best filling for the sac of an inoperable aneurism is that *white* thrombus which is formed by an uniform deposition of plastic leucocytes upon the inner wall of the sac, gradually producing its occlusion. This result is effected by just that degree of gentle irriration of the entire inner wall of the aneurismal sac as shall be necessary to set up plastic inflammation, and not sufficiently severe to produce softening or dangerous injury to sac wall. This irritation is procured by the introduction into the sac of a very slender, highly polished and aseptic pin, and gently moving its point systematically over the entire inner wall of the sac. To thoroughly accomplish this, in order that every part of the sac wall may be equally strengthened by the plastic deposition, it may be necessary to introduce the pin from several different points.

Dr. C. L. Sheich has found that in wound cavities filled with sponges saturated with a solution of iodide of potassium a more rapid exudation of leucocytes is procured than when other salt solutions are used. This phenomenon was also observed when the iodide was exhibited by the mouth and hypodermically. If his observation be true, it would, no doubt, be expedient to supplement the irritation of the aneurismal walls, after the method of Dr. Macewen, by the well-known iodide therapeusis. Very probably in this observation we find the explanation of the beneficial results often following the exhibition of the iodide of potassium in cases of inoperable aneurism.

Tuberculin.—As to the effect of hypodermatic injections of "tuberculin" in skin tuberculosis, especially in lupus and in tuberculous joints, the professional mind seems to be divided. Much has been written and spoken in reference to this sensational discovery, but sufficient time has not yet elapsed to test its true position in surgical practice. Reports of amelioration of symptoms, progressive cure and complete recovery have come from various experimenters, while on the other hand, many claim that little or no benefit has been observed, and the Medical Faculty of the University of Bonn have abandoned the parataloid injections altogether The trend, however, of professional opinion at this writing seems to be that there is true merit in the discovery; at least as regards tuberculosis of the joints and skin, but that further experimentation is necessary to establish its rightful place in surgical science.

During the year some new drugs have taken their permanent place in the progressive surgeon's armamentarium, and some, long and well known, have developed new capabilities.

Aristol, in lieu of iodoform, is a favorite with many.

Peroxide of hydrogen is a safe, powerful and little irritating antiseptic. It freely permeates and searches the tissues even to the most hidden parts, and has been used with marked success by this reporter as an injection in gonorrhœa. It is especially useful in this affection, since it possesses the power to penetrate the crypt and follicles of the urethra, attacking and destroying the gonococcus in his remotest lair.

Professor V. Mosctig claims that *iodoform*, in parenchymatous injections, is attended with marked improvement, and even cure, of soft goitre. Dr. Frey has also used it, in injection, for the cure of cystic and fibrous goitre. Emulsion of iodoform, and iodoform in oil, has been used, and is highly spoken of by many eminent ones, in the treatment of cold, tuberculous abscess and in tubercular arthritis. In the *American Journal of the Medical Sciences* for December, 1890, is an abstract from a paper by Dr. Bruns, in which the method of procedure and statistical results are clearly given. The latest addition of medicaments to surgical practice is the "color cure" for cancer and ulcerous conditions of a chronic character. Report upon the remarkable results from the use of the *aniline dyes*, especially the *blue Pyoktanin*, are coming from numerous experimenters. Dr. Willey Meyer, of New York, has a very interesting and elaborate paper on this treatment in the *Medical Record* of April 25, 1891; and while it is too early to dogmatize about so recent a method of cure for so grave a malady, still the results so far given would indicate a future for the aniline dyes in inoperable tumors and ulcerous lesions.

From personal experience, since our last meeting, I have to report the case of a young man injured by a mill-shaft. Crawling under the shaft for the purpose of removing the débris, he was caught in the clothing of his back by a pin projecting from the revolving shaft. In this way he was firmly pinioned to the shaft, which was making about five hundred revolutions per minute. He was so hung that the podalic was longer than the cephalic extremity, and for this reason his head escaped injury; but with each revolution his feet struck the floor below and a piece of timber above. It was estimated that the man made over five hundred revolutions before the machinery could be stopped, and what is remarkable to this writer is that the revolutions, so rapid and so long-continued, did not, in themselves, produce death. Strange to say, the man did not even lose consciousness, and at a later date gave a very graphic description of his sensations. Upon examination two ribs were found to be fractured; there was compound fracture of both bones of the right leg three inches above ankle-joints, and a compound, comminuted fracture of all the metatarsal bones of left foot except the first and fifth. The enveloping skin, except at points of rupture, and they were small, appeared little injured, and at the urgent request of the conscious patient, we decided, after a faithful portrayal of the dangers of a secondary operation, to give him the bare, possible chance for the saving of his feet. The skin appearances, however, proved deceptive, and beneath there was complete disorganization of the soft, and comminution of the osseous, tissue. Slow but progressive gangrene, in spite of faithful antisepsis and drainage, took place in both feet. We amputated the right at the juncture of the upper with the middle third on the eleventh, and the left just above the ankle on the fifteenth day after the injury was inflicted

The patient stood the operations well, his general condition began to improve at once, the stumps were perfect, and he is now in correspondence with A. A Marks for a pair of rubber feet.

The second case was one of tetanus from nail-wound in foot occurring in a girl 12 years old. The infection-atrium was thoroughly opened and disinfected, to prevent, if possible, the further absorption of microbic poison, while the convulsive seizures and tonic spasms were mitigated and finally controlled by the exhibition of the solid extract of physostigma in such amounts as to obtain its physiological effects. The amounts given were far in excess of the dosage recorded in our texts, and were regulated only by the influence exerted over the clonic and spastic muscular contractions. This basis of medicinal treatment was supplemented by a mixture of bromide, chloral and morphine.

As yet we have no specific treatment for the tetanus microbe, and the indications to be met with are symptomatic and supportive. This case made a good recovery in about three weeks, as did another wounded and treated in the same way about three years ago. There are many other facts to the general surgeon of special interest—quill-drainage, electro cystoscopy for diagnostic purposes, the treatment of urethral stricture and inoperable tumors by electrolysis, retained tube in cancerous stricture of the œsophagus, etc., but a separate notice would protract this paper to tedious length.

I thank you for your patient attention, and beg that you lay over the faults and omissions herein appearing the mantle of professional charity.

A Blow at Vegetarianism.—According to Raymond, Gubler and E. Monin, a vegetable diet tends to produce atheroma of the arteries.—*Medical Record.*

EDITORIAL.

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Thomas F. Wood, M. D., Wilmington, N. C., } Editors.
Geo. Gillett Thomas, M. D., "

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"THE HISTORY OF INSTRUMENTAL PRECISION IN MEDICINE"; ABSENCE OF MEDICAL POLITICS IN THE CONGRESS OF AMERICAN PHYSICIANS; SPECIALISM AND SPECIALISTS; THE EXCEPTIONAL CONSTRUCTION OF "THE CONGRESS"; INSTRUMENTS FOR DIAGNOSIS WHICH MAKE THE PHYSICIAN MORE PRECISE, BUT MEN MUST KEEP AHEAD OF THEIR INSTRUMENTAL AIDS; THE STORY OF THE THERMOMETER AS AN INSTRUMENT OF PRECISION; INSTRUMENTAL ACCURACY APPLIED TO THE PULSE; THE WATCH; SELF-REGISTERING THERMOMETERS.

Every one of our readers will want to read Dr. Weir Mitchell's presidential address before the Congress of American Physicians recently in session in Washington (September 23), and they ought to read it more than once. It is on the "History of Instruments of Precision in Medicine."

The speaker reflected with particular stress upon the organization of the Congress, which for the second time had assembled, and "amongst organizations of medical men it stands alone as to quality and peculiarity of construction. It is made up of the special societies which represent among us all the reasonable divisions of which medicine, in a broad sense, seems capable." * * * "It has no medical politics, nor is it embarrassed by useless idlers, who look upon such gatherings as merely pleasant social meetings." Good qualities, indeed, in any society, an eutopian dream materialized!

Specialism to a man of Dr. Mitchell's age is a thing of recent birth, for he can remember when older physicians refused to recognize socially a man who devoted himself to the eye alone. "To day we can only look back with wonder at such narrowness." Short time, indeed, has it been, since Chisholm and Cornelius Agnew and a very few of that date began to be known as aurists and ophthalmologists, and they are the milestones from which we are in the habit of measuring the practical beginning of the specialties, say 20 to 25 years.

Dr. Agnew deplores, as a wise physician can only deplore, that "the special physician is medically born, and is too apt to select his branch before he is weaned from his Alma Mater"; adding, "You must permit me to think that all such men would be better doctors if they had back of them some years of general clinical labor. He quotes very appropriately a remark of Dr. Cornelius Agnew: "We should all be better for an hour or two a day in a general hospital ward," adding, loyally, "the very great relative perfection of the therapeutics of visceral disorders is an intellectual risk." He quotes also the words Romberg said once to a friend of his who gave him a new American book: "Is the author 35? I will look at it; is he 40? I will read it."

"We have all come to admit gratefully the value of specialism in medicine; but he who is watchful over the general interests of his profession must have seen that these subdivisions of labor involve for us certain perils." But all lose by not keeping closer touch with each other. We are reminded "that it was physicians who distinctively recognized and diffused the knowledge that headaches and some other brain disorders are due to eye-strains." It is the physician who, not having skill in special diagnosis, may allow his patients to go beyond the time when the specialist could be of service. On the other hand, the delay of "steel in the trenchant form" may save the female patient from sexual neutrality. He relates a story of a case in which a young woman, according to the opinion of Marion Sims, was decreed to lose her ovaries the next day. After consultation he replied with energy characteristic of the man, "I never murder sex without a pang. Let us give her a reprieve." The girl afterwards became a wholesome, happy wife and mother.

Nowhere else has a plan like that of this medical Congress brought together such a body of experts. "Your organization," says Prof. Mitchell, "is not exceptional in construction, but it has its national aspects." The fact that he was to speak to "a set of experts trained to a nicety in modern methods," led him to narrate a chapter of medical history hitherto unwritten," confining himself to the story of the earlier efforts to attain accuracy by instruments in the study of the pulse, respiration and temperature. He tells them with unflagging interest the important story of the evolution of the thermometer from the crude open thermoscope of Galileo, the date of which is set at between 1593 and 1597. This instrument was improved by a Venetian noble (Sagredo), who hermetically sealed the tube and divided the scale into one hundred parts. Galileo's work was denied, forgotten, neglected. Now he introduces a new and interesting personage to our attention, Santorio Santorini, born in 1561. In his commentary on Galen, Dr. Mitchell finds a description of the air thermometer. "We have here," he says, "an instrument with which we may closely measure the degrees of recession of the heat of external parts, and with which we may learn accurately daily how much we vary from the normal; also the degree of heat of your patients." The patient grasps the bulb or breathes upon it in a hood, or takes the bulb into his mouth, so that we can thus tell if the patient be better or worse, so as not to be led astray in *cognitione prædictione et curatione.*" But no real good comes of this much knowledge.

In 1701 Newnto marks the blood scale at 12° of his scale, using linseed oil as the fluid. A little later Fahrenheit used mercury in his thermometer, and after altering the scale over and over, settled upon 96° as the blood-heat.

Nearly a century of silence falls on the history of medical thermometry, and then we pass on to the substantial work of George Martine, of England (date 1740), "whose book is a wonder of able observations." Correcting all former observers, he has the temperature of the skin at 97° to 98°, over or under. He says: "I have seen fevers, most violent, where the blood was, from observation of the skin-heat, 5° or 6° above 100° without approaching any such danger, i. e, coagulation of the serum, or fatal effects"—this observation in reply to the tenet of Willis of the actual ebullitions or effervescence of the blood, "as when he speaks of it as ready to burst into flames." In another place Martine writes of his own experience: "In the ague I had lately, during the height of the paroxysm, the heat of the skin was 106° and that of my blood 107° or 108°; and what is very remarkable, in the beginning of the fit, when I was all shivering and under the greatest sense of cold, my skin was, however, 2° or 3° warmer than in a healthy or natural state."

From Martine* we pass by James Currie (1797), Chossat (1820), Frölich and Reuss (1822), Becquerel and Breschet (1835), Andral (1840), Henri Roger (1844), Bärensprung and Troulee (1851), our Bennett Dowler, of New Orleans (1851–'56), a very long space of time, as we reckon these days, to the certain ground which Wunderlich laid in his various treatises from 1858 to 1865 on medical thermometry. Amazing, truly, is the story of the evolution of the thermometer, and one cannot realize that there were physicians living in 1865 who had never seen a clinical thermometer, and as late as two decades ago there were physicians of excellent reputation and great experience who hooted at the thermometer as a piece of Miss-nancyism in medicine.

The story of the application of the watch as an instrument of precision in examining the pulse is told in a very entertaining manner, and the reader will wonder that there is so much in it he had never seen before, and if he is a thinking man, he will enjoy not only this, but all that this admirable address contains.

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*Is this the same citation which Seguin makes? "1740, Ch. Martin, *De animalium calore*"

We agree with Prof. Mitchell that there should be in every college a professor of the history of medicine, and fortunate would be the student who could avail himself of such an one as he.

THE THERMOMETER WITH AN INDEX.

The ordinary thermometer, to be read *in situ*, was a great obstacle to the employment of the instrument. Few physicians took the pains to be very accurate, fewer understood the need of accuracy. Now and then a physician had the enthusiasm to use an ordinary German thermometer, and one we know of arduously carried the long chemist's thermometer, applying it to the axilla, and reading the result at twelve inches from the body. It was Dr. Aitken, according to E. Seguin, who invented the self-registering thermometer; but Dr. Aitken (*Science and Practice of Medicine*, 1868, p. 59) says that Mr Casella, of London, made his thermometers by his direction. and that the self-registering thermometer he used was known as "Phillips maximum," which does not require to be read *in situ.* Burrows also describes a self-registering thermometer in 1867 (*Medical Times and Gazette ; Neal's Digest*).

We are indebted to the Annual Report of the Signal Service (1887, part 2, pp. 91–92) for the following historical items. In 1757 Cavendish devised a self-registering thermometer, differing from the common instrument only in having the stem drawn out into a capillary tube, which enters into a glass tube joined to the stem at the place where it begins to be contracted. The upper part of the tube above the mercury and a portion of the glass bulb are filled with alcohol. When the temperature rises the alcohol is driven out of the tube into the glass ball, where it is left when the temperature falls.

The Rutherford maximum is of date 1794. This has a light, moveable steel index at the top of the mercurial column. The instrument is placed horizontally, and as the temperature rises the mercury pushes the index before it; when the temperature falls the index is left *in situ.* The thermometer is reset by bringing the steel index to the top of the mercurial column by a magnet.

It was in the "Phillips maximum" or the Wolferdin of 1854, that the index was made by separating a small bead of mercury from the main column by a bubble of air, and was the first that could be used vertically. The defect in this instrument was the ease with which the index was reunited to the main column of mercury by shaking it down after an observation. To cure these defects we have the following: The Negretti and Zambra maximum, and the Casella and Hicks and other devices, in which the tube is constricted near the bottom of the scale to prevent the complete return of the mercury to the bulb.

THE MEDICAL LAWS BEFORE THE SUPREME COURT; AN IMPORTANT DECISION.

CASE OF THE STATE VS. L. W. VAN DORAN.

This was a criminal action for the statutory offense created by Chapter 181 of the Laws of 1889, tried at the Spring Term, 1891, of the Superior Court of Washington county, before Bryan, Judge.

The indictment was in form as follows: "The jurors for the State, etc., present that L. W. Van Doran, in Washington county, on the 1st day of March, 1891, unlawfully and wilfully did practice, or attempt to practice, medicine or surgery, the said L. W. Van Doran not then and there having produced and exhibited before the Clerk of the Superior Court of said county a license, obtained from the Board of Medical Examiners of the State of North Carolina, or a diploma issued by a regular medical college prior to the 7th day of March, 1885, nor made oath that he was practising medicine or surgery in the State prior to said 7th day of March, 1885, and not then and there having obtained from said Clerk of the Court a certificate of registration, and not then and there having a temporary license so to practice medicine or surgery, contrary to statutes in such cases made and provided, and against the peace and dignity of the State.

It was in evidence that the defendant claimed to have graduated at a medical college in Chicago and to have lost his diploma. There was no evidecne of a license from the Medical Board of North Carolina, but the defendant had applied to the Clerk to be registered as a physician, and his application had been refused.

Avery J. (after stating the facts): Where a statute makes two or more distinct acts, constituting separate stages of the same transaction, indictable (as in the case at bar, the act of practising or attempting to practice medicine), both or all may be charged in a single count of the indictment. 1 Wharton, Cr. Law (7th ed.), Sec. 390; 10 Am. and Eng. En., p. 599d.; State vs. Bordaux, 93 et., C. 560; State vs. Parish, 104 N. C., 680. If the distinct acts, representing the successive stages of the transaction, were connected in the statute by the word "or," it was in accordance with the settled precedents in drawing the indictment to couple the independent clauses by using the word "and" instead of following closely the language of the statute and using "or"—Bish. on Stat., Sec. 244; State vs. Harper, 64 N. C., 129.

The reason for discarding the disjunctive and substituting the conjunctive was, that usually the alternative charge left the defendant in such doubt as to the nature of the offense which he was held to answer, that he could not intelligently prepare his defence; as where an indictment charged property, alleged to have been stolen in "A or another" giving the prosecutor the opportunity to sustain the charge by proving the property in any human being in the world, instead of averring that it was the property of A and another (who was shown by the proof to be his partner)—State vs. Capps, 71 N. C. 93; State vs. Harper, 64 N. C. 130.

But upon the maxim, *cessante ratione cessat et ipsa lex*, the better rule seems now to be that "or" is only fatal when the use of it renders the statement of the offence uncertain, and not so when one term is used only as explaining or illustrating the other, or when the language of the law makes either an attempt or procurement of an act or the act itself, in the alternative, indictable—1 Wharton c. l., Sec. 294; U. S. vs. Potter, 6 McLean 186. Where it is manifest that the defendant cannot be embarrassed by uncertainty in preparing his defense by reason of the use of the disjunctive instead of the conjunctive, if the form ordinarily used in drawing the indictment should be treated as an established precedent essential in all cases, it would be an arbitrary and unreasonable rule. Taking the language of the statute under which the indictment in U. S. vs. Potter *supra* was drawn, as an illustration, it would be difficult to explain how the accused would be put to disadvantage or left in doubt in making his preparation to meet the accusation, because he was charged with "cutting, or causing to be cut," and was uncertain whether the State would offer testimony tending to prove the commission of the one act or the other, when all the authorities concur in stating the rule to be that if the usual precedent had been followed and the language employed in the indictment had been "cutting *and* causing to be cut," the prosecution could have sustained the charge by proof of either act, thus eaving the defendant in equal uncertainty—10 Am. and Eng. Enc. Indictment, 16 (h.); State vs. Keeter 80 N. C., 472; Bishop Stat. Crimes, Sec. 244; State vs. Ellis' 4 mo. 475; State vs. Lockear Busbee 205; Wharton Cr., 1 Pl. and Pr., Sec. 252.

But if we admit (as many authorities tend to prove) that where no statute affecting procedure has been passed to modify it, it is a rule of law that charges of the acts representing the different stages of the same transaction, must be coupled by the word "and" in the indictment, still giving a fair interpretation to one curative act (Code, Sec. 1183) we think the charge is expressed "in a plain, intelligible and efficient manner" (certainly as definitely as in the old prescribed precedent), that sufficient matter appears in the indictment to enable the Court to proceed to judgment, and therefore that it should "not be quashed"—State vs. Rhinehart, 73 N. C. 58; State vs. Walker, 87 N. C. 541; State vs. Lane, 4 Iredell 113; State vs. Wilson, 68 N. C. 456; State vs Sprinkle, 65 N. C. 463; State vs. Parker, ibid. 453. The defendant moved in arrest of judgment because the indictment failed to specify upon what particular person he practiced medicine or surgery. The governing principle to be applied in passing upon the sufficiency of the averments in an indictment, is that the nature of the offense charged should appear so explicitly and plainly from its terms as to leave the defendant in no well founded doubt in preparing to meet the accusation. The indictment is framed under Sec. 5 Ch. 181 Laws of 1889. It is not estimated that the prosecution should show in order to convict under the statute, that the defendant ever prescribed for or practiced upon a particular patient, but it would be sufficient to prove that he held himself out to the public as a physician or surgeon and invited or solicited professional employment from any who might need or desire such service.

If the defendant merely held himself out to the public as a physician or surgeon, he was guilty of the offense created by the statute.

It would be unreasonable, therefore, to declare that the indictment upon its face is defective, because the charge is not more specific in describing the manner of practicing or attempting to practice. The precedents found in the books and used in prosecutions under similar statutes tend to sustain our position—Bishops Forms, Sec. 996 to 1000. The offence seems to be described with sufficient certainty in the language of the law, and no extrinsic proof is needed to bring it within its terms. This indictment is not analogous to the charge of disposing of mortgaged property› drawn under the acts of 1873–'4 and 1874–'5, because in that case, as the Court declared, the words "dispose of," in their literal sense, were worse than a drag-net, and taken with reference to the subject at hand, they might mean disposition by removing from the county, concealing, selling, or by the actual consumption of such as were fit for food—State vs. Pickens, 79 N. C. 652. Besides, there were certain extrinsic facts that it was essential to aver and prove—State vs. Barnes, 80 N. C. 376. The offence is charged in the indictment in such terms that the defendant cannot be guilty of it without being brought within the express meaning of the statute, and this has been declared a test of its sufficiency in such cases—Young's case, 15 Grattan (Va.), 664. It has been stated as an established rule that where an offence is prohibited in general terms in one section of the statute, and, in another and entirely distinct section, the acts of which the offence consists are specified, it is not necessary that anything but the general description should be let out in the indictment—State vs. Casey, 45 Me. 435.

Where the very nature of a charge is such as to involve the idea of attempting to engage in a business prohibited by statute, there is not the same reason for specifying the act, as where the allegation is and the specific proof must be that the accused was guilty of a single unlawful act, which would constitute a distinct offence, as often as the act might be repeated—Bishop Stat. Crimes, Section 1037; People vs. Adams, 17 Wend. 475.

Thus, if the defendant were indicted for retailing, every distinct sale to the same or different persons would constitute a criminal offence, while separate indictments would not lie for every attempt to practice, or every separate solicitation of practice, within the statutory period—State vs. Bryan, 98 N. C. 644.

It is too late to question the constitutional validity of a statute, enacted in the exercise of the police power of a State, and purporting to protect the public against imposition and injury to health by requiring that persons who engage in the practice of medicine shall submit to an examination conducted by learned physicians, and shall produce a license from such competent masters of the medical science—Cooley Const. Lim., 596 (Star page.) The proviso to Sec. 5 (under which the bill is drawn) declares that "this act shall not apply to women pursuing the avocation of mid-wife, nor to reputable physicians or surgeons resident in a neighboring State and coming into the State for consultation with a registered physician of this State." The comity thus extended to reputable physicians, who have probably been subjected to some suitable test of competency (under the laws of the States in which they reside) before being permitted to practice, is widely different in its nature from the attempt to grant the exclusive privileges coming within the inhibition of Art. 1, Sec. 7, Constitution of North Carolina.* The proviso to the Section is merely an exception to a restrictive or prohibitory law, inserted through courtesy to sister States upon the assumption that they have provided amply for the protection of the health of their citizens by legislation similar to ours, and with the further safeguard, that our own registered physicians alone have the power to extend this courtesy to non-residents, upon whose opinion they may place a high estimate.

At the request of the Solicitor the Court charged the jury that, if "the defendant attended any sick person, examined the condition of such sick person and prescribed the medicine of his own make for the sick person, and held himself out to the public as competent to prescribe the medicine of his own make in those cases, wherein it was the proper remedy, in his opinion, and did prescribe it in such cases, the defendant had violated the criminal law," and should be termed guilty. A witness testified that the defendant examined his throat, diagnosed the disease, declaring it to be catarrh, said he would cure the witness for ten dollars, and prescribed and furnished some pills that he had been selling as a proprietary medicine. Another witness testified that the defendant stated, when on trial before the Justice of the Peace, that he was a practising physician in Washington county. Mr. Armistead testified that the defendant told him that he had a right to practice medicine and intended to do it; that he did not understand the defendant to say that he used only his own proprietary medicine. Dr. Murray visited Mrs. Matthews and found the defendant in attendance upon her, when he said that he had as much right to practice medicine as Dr. Murray, a registered physician, had. He had medicine in the sick-room, and said he was giving it to the patient who was having fits—Indian hemp and pulsatilla The defendant, when examined in his own behalf, said that he had been called to see plenty of sick people, and, "after examining them," if it was appropriate, prescribed his medicine.

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*Provides that "No man or set of men are entitled to exclusive or separate emoluments and privileges from the community but in consideration of public services."

We think that the instruction embodied the law applicable to the testimony bearing upon the charge. An unlicensed person, claiming to be a physician and holding himself out to the world as such, cannot, after examining a patient who has asked his services, diagnosing the disease, fixing an amount or price for which he will cure the patient and giving him a prescription, evade the law by proving that the medicine administered was a proprietary remedy prepared and sold by himself. If such were the law, with a half dozen or more medicines of his own manufacture and marked as nostrums suitable for certain classes of diseases, might declare himself a graduate in medicine, capable of curing diseases of all kinds, after examining a patient and determining which one of his ready-made preparations would prove a panacea to meet the particular symptoms, might administer it, and thus defeat and evade this salutary law passed for the purpose of preventing quacks from masquerading as trained medical men. A vender of patent medicines, who does not pretend to diagnose diseases and determine which of his remedies is proper in a particular case, is not a violator of this statute; but that avocation cannot be used to shelter one who is practising medicine and holding himself out as a physician, and who varies his prescriptions to meet symptoms discovered on his own examination.

We think that the evidence warranted the judges in giving the instructions asked by the Solicitor, and in adding that if the defendant had practiced in the county of Washington within two years without first having registered and obtained a certificate, that is, prescribed for sick persons or held himself out to the public as a physician or surgeon, he was guilty—State vs. Bryan *supra.* Defendant's counsel in his brief says, after enumerating the exceptions to which we have adverted, that all others are abandoned. He does not insist upon the motion to quash for want of the negative averments that the defendant was not a reputable physician, etc., and his abandonment must be considered as complete a waiver as an agreement to cure the defect, if any existed, by amendment would have been. There is no error, and the judgment is affirmed.

THE CASE OF THE STATE *VS.* VAN DORAN; ITS IMPORTANCE TO THE PROFESSION—THE COUNSELS' QUIBBLE ABOUT PHRASEOLOGY SET ASIDE—IT IS THE ACT OF MAKING A DIAGNOSIS, AND PRESCRIBING THE REMEDY THAT CONSTITUTES THE PRACTICE OF MEDICINE—THE MEDICAL LAW SUSTAINED.

We have herewith given the full text of the indictment of one L. W. Van Doran, in Washington county, for attempting to practice medicine without registration, and the opinion of the Supreme Court, delivered by Justice Avery. Van Doran was convicted under the medical laws of the State, and it appears from the decision of the Court that the appeal was based upon the quibble over the use of conjunctions in the statute, and upon the fact that Van Doran claimed to prescribe only a certain medicine of his own making, composed of Indian hemp and pulsatilla; but he exhibited his nostrum only after instituting an examination and claiming to have made a diagnosis of the disease.

Let us leave the discussion of the indictment so far as it concerns its verbiage or that of the statute under which it was drawn. This interests us only in the statement that the Supreme Court considers the law sufficiently explicit to cover the offenses for the cure of which it was framed.

It appears that the person under indictment applied to the Clerk for registration, and not possessing either a license or diploma as required by law, nor making oath that he was actively in practice prior to March, 1885, he was refused a certificate. In defiance of the laws of the State, he began his labors as a physician. And right here is the first point in the decision that we feel interests us. The law of the State by virtue of this decision declares that any person who shall offer himself as a practitioner of medicine is amenable to all of the pains and penalties set forth in the laws regulating medical practice, and that his liability is in nowise dependent upon the production of the persons whom he has professionally visited or for whom he has prescribed. If he seek practice, he must first register, and to register means he must justify his claim before the Clerk to being a physician or surgeon, or both. Failing to register is to violate the common law of the State and the penalties are clearly set forth. But there is a discrimination made in this opinion which is worthy of careful thought.

Van Doran's claim to exemption from the operation of the law in his case, because he only gave a proprietary medicine, of his own manufacture, was declared without avail, because Van Doran examined his patients more or less carefully, claiming to diagnose their diseases, and promising relief from the exhibition of his medicine. The patent medicine man who hawks his ware from the boot of a carriage, or catches the gudgeons with his oily tongue and high-sounding praises for his panaceas, makes no attempt to diagnose disease. He tells the gaping multitude what his cure-them-all-quick will do, and if they want it, it is forthcoming for the money. He attempts no examination; he boasts of no power to diagnose their ailments. But there is in North Carolina right now a class of pretenders, who are covering themselves under the thin shadow of selling spectacles as opticians, sometimes posing before the public as the aforetime pupils of this or that great European oculist, calling themselves doctors, and yet going scot-free of all the obligations imposed upon the regular physician. These men do pretend to diagnose diseases of the eye—and for errors of accommodation they claim to be able to provide spectacles *of their own manufacture.* One of them advertising in a daily paper, as a disclaimer to all pretence of being a physician, although he calls himself a doctor, says he does not treat eyes medically, and commends all persons in need of medical service for the eyes to see their physician. But all of these men claim to be able to determine by examination the faulty accommodation of the people's eyes and to provide them with glasses to relieve them—and under the ruling of the decision before us they are all clearly amenable to the law, and ought to be made to conform to its provisions.

The learned judge, in pronouncing the opinion of the Court, said it was too late to question the validity of the law. The Supreme Court of the United States has set its seal of commendation upon all such laws and declared them constitutional beyond all question, and our Court has added the weight of its decision, and in a most decided manner declared these laws salutary, in that they are said to be for the protection of the lives and happiness of the people.

What more need be said? All over this State there are men who are not yet on the Clerk's list. Apathy, public prejudice, and, we fear, in some cases, wilful official neglect in allowing these laws to be neglected and the offenders to go unwhipped of justice. Grand jurors refuse or fail to find bills of indictment when the evidence is so clear that only one excuse could cover this failure to indict. We trust that better things will follow in the wake of this decision, and we thank the able judge for his explicit and clear statement of the material matters of the law regulating medical practice.

THE SAMPLE COPY DOCTOR now adds to his seductive request to send "the last number of your valuable journal" a business inquiry as to "your circulation, price per page of advertisement," and when you "expect to get out a special edition." We make it a rule to send a sample JOURNAL to any North Carolina doctor, but we use our discretion about the postal card requests from other States. If the ability to enjoy plain English printing may be judged by some of the specimens of chirography and orthography exhibited in these postals, the JOURNAL is not the periodical they are looking for.

SULPHUR AS A MATERIAL FOR REPRODUCING ENGRAVINGS, GRAPHITE CRAYON'S, ETC.—The *American Druggist* quotes a paragraph from *Bull. Soc. Chim.* and *Jour. Anal. Chem.* of a curious property of sulphur. M. Lepierre, in demonstrating that sulphur, melted at about 115° can be cooled in paper. In experimenting he happened to use a lithographed card of which the edges were turned up. Upon taking away the card he discovered that the lithographed characters were clearly and distinctly impressed upon the cooled surface of the sulphur, and remained after hard friction and washing. By repeated experiments he has been able to get very fine results, removing the paper each time by a mere washing and rubbing process. He finds that sulphur will receive impressions from and reproduce faithfully characters and designs in ordinary graphite crayon, colored crayons, writing ink, typographical inks, lithographic inks, colored or not. It will reproduce with remarkable exactitude geographical maps.

REVIEWS AND BOOK NOTICES.

Regional Anatomy in Its Relation to Medicine and Surgery. By George McClellan, M.D. In two volumes. Vol. I.

As physicians are of all men the strongest believers in the doctrine of heredity, they should naturally be predisposed in favor of a work upon anatomy by so accomplished an anatomist as Prof. McClellan, the son of a distinguished anatomist and surgeon, and the grandson of one no less distinguished. Viewed, however, upon its own merits alone, this book will no doubt at once take rank with the highest authorities upon anatomy.

It is not intended to take the place of a systematic work upon anatomy, the author presupposing a certain amount of anatomical information on the part of his readers, but is rather a work upon practical anatomy. The body is considered as divided into various "regions," and the structures found in each region are discussed in their relation to each other, their functions pointed out, and their bearings upon surgical work clearly indicated—all in a style so clear and simple as to commend itself to everybody. Thus in Vol. I. we have discussed the Regions of the Head (with a capital description of the topographical relations of the skull to the surface of the brain), eye, ear, nose, face, mouth, larynx, neck, thorax and upper extremity. The knowledge of the subject displayed by the author is thorough and accurate. It is refreshing to see somebody attack some old follicles that here crept into the books and been handed down from generation to generation, e. g., the scalene tubercle (of Lisfranc); the surgeon who relies upon this tubercle as a guide to the subclavian artery of the first rib will be disappointed in about 98 per cent. of cases.

It is bountifully illustrated with plates, which are the best we have seen, having been made from *photographs* taken by the author of dissections made by himself, and have therefore the advantage over diagrams of bearing a close resemblance to nature.

As to the practical utility of the book, it goes without saying that not all the books and plates in the world can take the place of an intimate acquaintance with the body itself. Nobody knows this better than the author, and it has been his aim to produce a book that will aid the student in his study of the body and at the same time make that study more attractive to him. To medical students of the second year in particular this book will be of much benefit.

Prof. McClellan intimates, and the medical examining boards will corroborate the statement, that the large majority of students leave college very deficient in anatomy; and so long as the method of teaching this subject remains the same, it will continue to be the case. Many of them settle in small towns or in the country, and having no means of doing dissections, soon forget the greater part of what they did know, and become more and more disinclined to do any surgical work To such physicians this book will be very useful, as enabling them to keep alive their old anatomical knowledge, adding new and valuable information, and enabling them to successfully undertake operations which they have not felt prepared to do.

We believe the book can be confidently recommended to the profession. R. H. W.

A CLINICAL TEXT-BOOK OF MEDICAL DIAGNOSIS FOR PHYSICIANS AND STUDENTS, BASED ON THE MOST RECENT METHODS OF EXAMINATION. By Oswald Vierordt, M.D. Authorized Translation by Francis H. Stuart, A.M, M.D., with 178 Illustrations. Philadelphia: W. B. Saunders, 913 Walnut Street, 1891. [Price $4.00 in cloth.]

This is a handsome volume of 700 pages, produced in high style of the publisher's art, with illustrations plain and in color, making the first inspection of it a delight to the eye. An ample index, nearly one-seventh of the whole volume, is commendable in every way, enabling the over-read reviewer to pry into the merits of the pages by the shorter processes, and furnishing to the student a very competent key to the treasures which are stored in the numerous pages.

The introduction is devoted to note-taking, an almost universally neglected duty of physicians, but valuable immediately and prospectively. The writer has seen the record book of a German physician, in the Valley of Virginia, which covers three generations of people of the vicinity in which he and his sons practiced. The great value of such a record in throwing light upon hereditary entailments of families, and giving patients confidence because of the record, is obvious.

In estimating the value of this volume the reviewer would have in his mind works on the same subject by others, and he would set up but one rival in this country that could be seriously compared to it, and that is deficient in many of the chapters of our present author. For clearness of expression it resembles, although in a far fuller manner, the interesring method in Dr. Hughes Bennett's introduction to the practice of medicine.

There are several topics taken up by Prof. Vierordt not dwelt upon in other works; we call attention more especially to the examination of the nervous system. The freshest and best material is employed, compressed into 124 pages.

In the appendix a chapter is given on the examination of the larynx which is serviceable both for the practical way in which the student is led into this very necessary means of diagnosis, and because it would incite those who may be driven by the necessities of their practice to turn their attention to completer means.

The hints on ophthalmoscopy are very brief, and what is said of the diagnosis of pathogenic bacilli is useless to the majority of readers.

The book is excellent and ought to serve as a standing remonstrance with those physicians who persistently neglect all efforts at special diagnosis. It is unpardonable in a doctor to decline the use of the special instruments of diagnostic precision—the ophthalmoscope and the laryngoscope particularly—upon the ground that he is not a specialist. There is a degree of general knowledge on these special lines that will repay the conscientious physician to master, for his own reputation and the comfort of his patients A doctor in the back-woods of New Hanover county ought to be able to give a tolerably precise idea of whether in a certain patient, for instance, he has to deal with a syphilitic or tuberculous larynx—the former offers every prospect of recovery, the latter is certain death—and he ought to be able to say which he has in hand.

To the younger physicians we say, buy this book and keep it close by you on your office table; and older friends may then look to their laurels if they be not likewise armed.

The Refraction of the Eye: A Manual for Students. By Gustave Hartridge, F.R.C.S. Ninety-eight Illustrations and Test Types. Fifth Edition. P. Blakiston Son & Co., 1012 Walnut Street, Philadelphia, 1891.

A book most appropriately printed on clear white paper, with the clearest of type, and the best of black ink well distributed makes it a delight to the eyes, just what we would expect in a book on refraction.

The author is fortunate in the selection of a printer, and the whole appearance of the volume indicates it as a product of the English press. But this is not all the praise we have for it. The author is writing for the instruction of beginners in the art of correcting the errors of refraction. He rightly judges that some of his readers are ambitious enough to want to do some of the special work in the "jewelry of surgery," but who have not had the elementary teaching in the principles of optics, so he opens with a plain, practical chapter on optics. The succeeding chapters covering the subjects of refraction of the eye, methods of determining refraction, the ophthalmoscope, retinoscopy, hypermetropia, myopia, astigmatism, strabismus and asthenopia, ending with practical instruction about the application of spectacles, to aid the student in his beginning work.

An appendix is given in which there is a table for converting approximately the dioptre or part of dioptre into its equivalent in English and French inches and in centimetres. Test types, including Pray's, for detecting astigmatism, and Snellen's, are also added.

The book is all it pretends to be, and the student taking the first steps will find Hartridge on Refraction a safe master.

Text-Book of Medical Jurisprudence and Toxicology. By John T. Reese, M.D. Third Edition, Revised and Enlarged. Philadelphia: P. B. Blakiston Son & Co., 1891.

This text-book was written particularly to meet the wants of the students of legal medicine, and as a concise treatise both for the law and medical student it is very serviceable. The subject of toxicology occupies a considerable space, as its importance demands. The physician who has to go deeper into cases than here laid down are few, and those who wish more exhaustive knowledge cannot fail to have their appetite sharpened and their research stimulated. There are 32 chapters The first 13 introduce the subject of medical evidence; treat of the phenomena and signs of death; medico legal investigations, including directions for post-mortem examinations; the presumption of death and of survivorship; personal identity; the causes producing violent death; examination of blood-stains; burns and scalds; death from different forms of asphyxia; death by lightning; death from heat and cold; death by starvation.

Toxicology is treated in the next 17 chapters, taking up the subject by a definition of poisons, and describing in order, irritants proper, and irritants possessing remote specific properties, concluding this branch of the subject with a chapter on the alkaloids of putrefaction—ptomaïnes.

Feigned diseases, pregnancy, criminal abortion or fœticide, infanticide, rape, insanity, medical malpractice and life insurance are the main topics of the concluding chapters.

The volume is issued in a neat and compact form, and recommends itself in every way as a good text-book.

THE MOTHER'S HAND-BOOK: A Practical Treatise on the Management of Children in Health and Disease, with an Appendix, Containing Articles on Diseases and Accidents that May Suddenly Happen to Grown Persons. Levin J. Woollen, M.D. Richmond, Va.: Everett Waddey & Co., Publishers and Printers, 1891.

Just how much help a mother should have to make her the intelligent nurse of her children in sickness, or how much she ought to know about herself in the new life which approaching maternity devolves upon her, may be estimated in different ways.

This book is designed to help the wife and mother to be useful to herself and her children. The tone of it is healthful, and we can recommend it to be adopted in many households, especially those in isolated country places, where no medical adviser is at hand; It is true, also, that even in towns and cities our homes are constantly plied with advertising literature, which does harm, and such a book as this, supplanting such trash and leading the maternal head of the family into a wiser view of family ailments.

If we have any adverse criticism to make it would be that the directions are too elaborate, and some of the curative agents rather too important to be trusted to domestic practice, but our experience, in this connection, that just such mothers as would be willing to treat their family by the directions of a book, are the ones who would apply to the doctor in the complexities that would naturally grow out of their attempts at practice.

The sound advice given by the author for the regulation of the mother's conduct towards the physician, will go far towards keeping her in reasonable bounds, and will tend to heighten the physician's authority in the household. The retail price of the book is $2.25

THE BEAUTIFUL SERIES OF REPRODUCTIONS OF THE PORTRAITS of the masters of the science and art of medicine of the two last centuries in the *Brooklyn Medical Journal* during this year, has added largely to the value of that original publication. The list includes: Bartholinus, 1655; Paré, 1690; Paracelsus, 1493; Von Helmont, 1634; Ferrel, 1506; Servetus, 1553; Harvey, 1578; Cesalpinus, 1519; Albert de Haller, 1777; Albinus, 1697; Sydenham, 1624; Willis, 1621; Boerhaave, 1668; Fabricius ab Aquapendente, 1562; together with one of Esculapius, and an admirable portrait of Aristotle in a meditative attitude, examining a plant which he holds in his hand.

IS ALBUMEN PRESENT IN NORMAL URINE?—H. Winternitz (*Zeits. f. physiol. Chemie*, xv., p. 189) has investigated this much discussed question, using for his experiments only urine from apparently healthy persons, and which gave negative results with the ordinary tests for albumen. In all cases the urine was previously filtered. In one set of experiments two litres of urine were evaporated down and precipitated with alcohol, but neither in the precipitate obtained by the addition of alcohol, nor in the alcoholic filtrate could any albumen be detected. In another series 150 to 200 cubic centimetres of urine were treated with three times its volume of alcohol, and after 24 to 48 hours the precipitate on being tested was found not to consist of albumen. The author comes to the conclusion that normal urine does not contain albumen.—*Brit. Medical Journal.*

CURRENT NOTES.

QUIZ-COMPENDS.—We have for some weeks had on our book table "Diseases of Children," by M. P. Hatfield, A.M., M.D., and "Gynecology," by Henry Morris, M.D., are not much above a low average of "quiz" books that are each year becoming more and more in demand by students going before Boards of Examiners. *Three Thousand Questions on Medical Subjects Arranged for Self-Examination.* We have more patience with a book like this. It is compact, and evidently compiled by an experienced teacher, though anonymously issued. The design of the little book is to give the student such questions as will enable him to determine how much he has learned. The questions are not answered, but references are made to text-books, by arbitrary signs, which leads the student to refer to the authority, and not leaving him to a meagre knowledge in minimum terms. The average student must strive to attain the maximum of knowledge in order to retain the minimum, and when he starts out with the minimum he is going to commit it to memory and become a question-answerer, but not a thinker. Let every student in North Carolina get this little book, use it faithfully in his year of office study (for his preceptor will not take the time, if he has the skill, to propound such questions as he gets here in point), and when he comes before the Board of Medical Examiners he will not give those over-worked gentlemen so much trouble. P. Blakiston, Son & Co., Philadelphia, are the publishers of all the above. The last book named is about a 50 cent volume.

VENUS' FLY TRAP.—A curious account of the "Venus' fly trap" was laid before the Biological Section of the American Association for the Advancement of Science, at its recent meeting, by Prof J. M. Macfarlane, of Edinburgh, who also gave an illustrated lecture on the hybridization of plants. Concerning the "fly trap," he proved by specimens at hand that two touches were necessary to make the leaf close up, but that it made no difference whether one of the six sensitive hairs was twice touched, or two of them each touched but once. The protoplasm of the leaf cells retained sharp recollection of the first touch for fifteen seconds, which was weakened during the next fifteen, and was wholly gone in about a minute. This exactly agrees with the "latent period" of muscular contraction in animals, though longer as to period. He showed that every part of the leaf blade is sensitive, closing after two snips, and that, if the first snip is very strong, closure may occur at the second, even after the lapse of two minutes. A strong jet of water will produce sudden closure. The action of chemical and electrical stimuli on these leaf cells is identical in behavior with that on the nerve muscle cells of the lower animals. This discussion was made particularly interesting by the presence of a beautiful array of plants from the public botanical garden, loaned for the purpose of demonstration.—*American Druggist.*

PLASTER OF PARIS FORMULAS.—1. *To Make Plaster Set Hard.*—Mix best plaster of Paris with about 10 per cent—more or less, according to effect ascertained by preliminary experiment—of very finely powdered marble (calcium carbonate). Or add to it about 6 per cent. of powdered alum, or about the same amount of ammonium chloride, before mixing it with water. 2. *To Make Plaster Set Slower.*—Mix it with 2 to 4 per cent. of powdered althæa root before adding the water. This not only retards the hardening of the plaster, but also enables it to be cut, filed, sawed and turned. An addition of 8 per cent. of althæa powder retards the complete setting of the plaster for about one hour, so that the mass can be used for any purpose where it is to remain plastic during at least a portion of that time.—*American Druggist.*

FLANNEL BANDAGES IN LOCOMOTOR ATAXY.—Dr. Leidy, of Philadelphia, has recently directed attention to the utility of a flannel bandage, firmly applied, for the relief of the shooting pains in the limbs associated with spinal disease, particularly locomotor ataxy. The use of such a means of relief was suggested to him by the benefit which he has seen derived from firm bandaging in the painful spasms which occur in the limbs after injury; and now, with six months' experience of the remedy, he recommends it strongly. He found that the firm application of a flannel bandage from the toes up to the middle third of the thigh afforded very great relief to lightning pains. In the same way the application of a firm abdominal binder gave almost immediate relief to the distressing girdle sensation which is so common. If the bandage or binder were removed from the seat of pain, it was found that the abnormal sensations recurred very soon and Dr. Leidy is inclined to regard to regard this simple artifice as of considerable importance. The good effects, he believes, result from the warmth of the bandage, combined with the pressure which it produces and the condition of rest.—*Lancet.*

CALIFORNIA CORKS.—The cork-oak is about to be a success in California. The immensity of the trade in corks cannot be conceived by those who have not inquired into it. Now the State that is largely increasing the demand for corks by her wine products is also about ready to supply her own wants and those of the rest of the world.

CHROMIC ACID AS A CAUSTIC—BE CAUTIOUS.—There is no caustic that is more potent in curing mucous syphilitic patches than chromic acid. Dr Bellamy, of Wilmington, is the first person who called it to the attention of the writer. It is usually applied from the tip of a match which has been previously moistened, the phycian having ready at hand a bit of absorbent cotton to absorb excess of acid as soon as the cauterising effect is accomplished. It must not be forgotten that if incautiously used it may burst out into an active state of oxidation and inflict rapid and deep cauterization upon the patient. This writer has just had a case in which chromic acid, which had deliquesced slowly in an occasionally unstopped bottle, was applied to some coxcomb excrescences in the ileo-femoral fold of the thigh from the tip of a match armed with a bit of absorbent cotton. Without a moment's warning it burst into an active state of ebullition, but fortunately wet cotton was immediately applied, which arrested the chemical action.

INCREDIBLY HIGH TEMPERAFURE.—The *Memphis Medical Monthly*, October, 1891, has a contribution from Heber Jones, M.D., on "High Temperature." He relates the case of a girl of 15 years who had the most remarkable hyperpyrexia, yet recorded. Nineteen thermometers were bursted in taking the temperature, "several flew to pieces in full view and outside the lips, undoubtedly caused by the expansion of mercury." At one time the register ran up to 152° (one hundred and fifty two!), returning to 98° in an hour. Five physicians named saw these very high registrations of the thermometer. This side of the Blue Ridge and so near the great

Atlantic we have heard of, and published the most astounding records of the thermometer, but cheerfully yield the palm to our daughter State, although Judge Gaston's familiar song says of North Carolina girls :

"True light-wood at heart, let the match be applied them
How they kindle in flame, O none know but who've tried
them."

Tennessee girls need no match to inflame them, but the doctors will have to go armed with a chemical thermometer annealed and graded for 212° F.

EARLY SYMPTOMS OF WHOOPING-COUGH.—Dr. Huguin, of Taurteron, affirms (*Union Méd. du Nord-Est.*) that photophobia with dilatation of the pupil is a useful diagnostic symptom of whooping-cough in the early stage before the cough has become characteristic.—*Brit. Med. Jour.*

DELIVERY OF THE SHOULDERS AND LACERATION OF THE PERINEUM.—Dr. Auvard (*Arch. de Tocol. et de Gynéc*, August, 1891) differs from many obstetricians in his opinion as to the order in which the structures in the neighborhood of the shoulders are born, in labors where the head presents. The classical theory, at least in French schools since 1830, gives the order thus : (1) Escape of the prominence of the anterior shoulder (that which is turned towards the maternal pubes); (2) birth of the posterior or perineal shoulder and of the corresponding arm; (3) birth of the arm corresponding to the anterior shoulder. Dr. Auvard holds that the true normal order of birth, putting aside the action of great weight of the fœtus, is : (1) birth of the perineal shoulder and of the entire corresponding arm, whilst the anterior shoulder keeps fixed behind the pubes : (2) escape of the anterior shoulder and the corresponding arm. The circumference of the fœtus around its shoulders is greater than the circumference of its head, and the circumference of the fœtus around the elbows pressed against the trunk is yet greater; hence the perineum is in greater danger of laceration from the shoulders and disengaged arms than from the head. Therefore Dr. Auvard holds that in order to preserve the perineum, the arms must be disengaged before the birth of the trunk. If the hands are easily accessible, draw them down so as to bring out the corresponding arms. When neither hand can be reached the head must be drawn aside so as to make the posterior shoulder project. The corresponding arm is next disengaged by pushing the humerus towards the back of the fœtus, and then drawing down the forearm. The anterior arm is delivered in the same way. If the posterior arm cannot be delivered first, the anterior must be brought down. In no case should the obstetrician leave the arms to be delivered pressed against the trunk, for this involves great danger to the perineum.—*Brit. Med. Jour.*

THE PROGRESS OF THE COMMITTEE APPOINTED TO SECURE THE RECORD OF THE CONFEDERATE MEDICAL OFFICERS WHO SERVED IN THE WAR OF 1861–1865.

NC med J (O.S.) 28: 246-248, #4, Oct 1891

The Committee gives below the names of all those medical officers whose names aone are given, but who have given no data of sufficient importance to make the record of value historically. The Committee urges those whose names appear below, or their living representatives and friends, to help by sending dates of commission, campaigns in which they served, hospital or other appointments, and everything appertaining to themselves that ought to appear, and send it to the NORTH CAROLINA MEDICAL JOURNAL:

William H. Holt, Assistant Surgeon.
Thomas A. Houston, Assistant Surgeon 65th Cavalry.
William R. Hughes, Assistant Surgeon 31st Infantry.
James Johnston, Surgeon 12th Infantry.
Johnston Jones, Surgeon 12th Infantry, Northampton.
James Jordan, Assistant Surgeon 70th Infantry.
——— Joyner, Halifax county, 30th Infantry.
Thomas K. Keen, Surgeon 21st Infantry, Rockingham county.
Hugh Kelley, Statesville, Surgeon.
J. H. Kinydoun, Surgeon 68th Infantry, Yadkin county.
George L. Kirby, Surgeon, Goldsborough.
T. B. Lane, Assistant Surgeon 28th Infantry.
John M. Lawing, Surgeon 69th Infantry.

John S. Leach, Assistant Surgeon, 1861, Johnson county.

E. A. Leggett, Assistant Surgeon 45th Infantry.

O. M. Lewis, Assistant Surgeon 58th Infantry.

W. H. Lilly, Concord, Surgeon 1864.

W. D. Lindsey, Surgeon 48th Infantry.

John E. Logan, Greensborough, 14th Infantry.

J. F. Long, Surgeon 53d Infantry.

John C. Love, Assistant Susgeon 69th Infantry, Jackson county.

William Love, Assistant Surgeon 29th Infantry, Haywood county.

Henry J. Macon, Surgeon, Halifax county.

John C. Merrell, Surgeon, Hertford county, conscript duty.

A. L. McKoy, Surgeon 60th Infantry.

E. M. McMannan, Assistant Surgeon 21st Virginia Infantry.

James A. McRae, Fayetteville.

James Michie, Surgeon 59th Virginia Cavalry.

T. B. Moffitt, Assistant Surgeon 37th Virginia Infantry, Lane's Brigade.

James A. Montgomery, Surgeon 1861.

Washington Morrison, Surgeon 14th Battalion Cavalry.

N. H. Payne, Surgeon, Rowan county, conscript duty.

J. M. Pelotte, Assistant Surgeon, Wake county, conscript duty.

E. S. Pendleton, Assistant Surgeon, Wake county, conscript duty.

E. J. Ransom, Assistant Surgeon.

George E. Redwood, Surgeon, Wake county, conscript duty.

W. L. Reese, Assistant Surgeon, Georgia.

Alexander Reeves, Surgeon 61st Infantry.

S. R. Rixey, Surgeon, New Hanover county, conscript duty.

E. M. Rivers, Assistant Surgeon, Guilford county, conscript duty.

L. W. Robinson, Assistant Surgeon 1861.

J. S. Robinson, Assistant Surgeon 72d Infantry.

A. H. Scott, Surgeon, Davidson county, conscript duty.

Leonidas F. Sensabaugh, Surgeon 65th Infantry.

R. H. Shield, Assistant Surgeon 1861.

E. B. Simpson, Assistant Surgeon 72d Infantry.

G. G. Smith, Surgeon 70th Infantry.

L. T. Smith, Assistant Surgeon, Wayne county, conscript duty.

Richard H. Smith, Surgeon 1861.

L. A. Stith, Assistant Surgeon, Wilson county, 2d Regiment.

James L. Straight, Assistant Surgeon 60th Infantry.

Daniel P. Summey, Surgeon.

George S. Tanner, Surgeon 21st Virginia Infantry.

Jacob Thompson, Assistant Surgeon 21st Infantry; resigned.

John A. Vigal, Assistant Surgeon 33d Infantry.

Warren W. Ward, Surgeon, Plymouth, 1861, 12th Infantry.

Edward Warren, Surgeon-General, Chowan county.

William C. Warren, Surgeon 1861.

Lorenzo White, Assistant Surgeon 60th Infantry.

William R. Willson, Assistant Surgeon, Granville county, 24th Infantry.

Thomas W. Wingfield, Assistant Surgeon 1861.

Joseph W. Wiseman, Assistant Surgeon, Davie county, 22d Infantry.

H. N. Young, Assistant Surgeon, Iredell county, conscript duty.

READING NOTICES.

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THOMAS F. WOOD, M. D., } EDITORS.
GEO. GILLETT THOMAS, M. D., }

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NORTH CAROLINA
MEDICAL JOURNAL.

THOMAS F. WOOD, M.D.,
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ORIGINAL COMMUNICATIONS.

THE CONDITIONS UNDERLYING THE INFECTION OF WOUNDS, INCLUDING A DISCUSSION OF DISINFECTION WITH REFERENCE TO THE TREATMENT OF WOUNDS, OF THE RELATION OF BACTERIA TO SUPPURATION, OF THE RESISTANCE OF TISSUES TO THE MULTIPLICATION OF BACTERIA, AND OF THE EFFECTS OF ANTISEPTIC AGENTS ON WOUNDS.

By Roswell Park, M.D., of Buffalo.

The study of wound inspection is inseparable from that of immunity, and when we have learned that which constitutes or favors immunity, we shall approach nearer that which is now a *terra incognito.* Immunity is a complex condition, not dependent upon any single factor, and from pathological interest, as well as from clinical importance, our endeavor now must be to analyze the main question of what constitutes or confers immunity, and try to recognize and then solve its various subordinate queries. This statement, too, is inseparable from another, which is to the effect that the surgery of to-day should aim to be aseptic and not merely antiseptic. In other words, we should abolish sepsis, and not merely aim to antidote it or conquer it when present. The condition of sepsis is a complicated one, consisting of a poisoning by ptomaïnes, toxines and albumoses, having widely different properties. Some of these substances are so antagonistic that one may neutralize the other. In the intestinal canal there are produced poisonous substances which are taken up by the absorbents, but they are filtered out by the liver before reaching the systemic circulation. It is by virtue of this depurative action of the liver that many cases of septic intoxication in surgical patients are avoided. In a division of the general subject of blood-poisoning, a condition which may be called intestinal toxæmia or intero-sepsis, deserves a distinct place. This occurs not infrequently, and may merge into a condition of sapræmia or septicæmia; but if promptly checked there is a speedy return to a desirable condition both of wound and patient. * * * By no means do all cases of surgical sepsis have their origin in or about the wound.

We have learned a little in reference to the antagonism of different bacteria and the poisons which they produce. A microbe may enter the system and produce a proteid or albuminose poisonous to the animal, while the introduction of some other substance may neutralize this poison and save the animal. The principle is the same whether the antidotal poison be injected as such or a second species be inoculated by which it may be produced. Brunton has suggested that blisters do good in this way, by an endermic administration of proteids derived from the blood, but so altered in their passage from the vessels as to have a different effect, and probably by their chemotactic properties. He also suggests that bleeding may act in a similar manner, as it has been shown that the abstraction of venous blood causes an absorption of proteid matters from the tissues, and these may have an action of their own on the tissues with which they come in contact. The benefits of free purgation probably find here their proper explanation.

The term chemotaxis, to which reference has been made, relates to that faculty possessed by all motile bacteria of moving towards or away from certain substances which seem to attract or repel them. The same power is inherent in the plasmodia of myxomycetes as well as in various other unicellular organisms, and leucocytes, if not other cells of the human body, possess the same property. Chemotaxis is spoken of as positive or negative, as there appears to be attraction or repulsion. Among the most actively positive chemotactic substances are cultures of bacteria. These are powerfully attracted by the leucocytes. The effect is the same, whether the cultures are alive or have been killed by boiling. The active agent is some product of the life and growth of the bacteria. The leucocytes thus attracted act as scavengers for the surrounding tissue.

These facts have an important bearing upon questions which vitally concern the surgeon. In the light of these researches it is difficult to see how the possibility of phagocytosis can be denied, and the impossibility of this process looms up in a flood of light when one discusses the phenomena of suppuration or of other kinds of infection, as well as of recovery or immunity therefrom. Support of the phagocyte theory has come from the work of Hankin on Defensive Proteids From the spleens and livers of various animals he has isolated the proteid, which has the power of killing bacteria, and he has found that this, while absent from normal blood, it could be obtained from the blood of febrile animals.

The separation of dead and dying matter is a process in which the formation of proteid material figures largely. An important bearing of these facts is on the one use of so-called antiseptic agents. The ideal antiseptic is probably blood serum, its parasiticide properties being in all probability connected with the existence in it of a globulin which is soluble only in a weak solution of common salt. This may explain the well-known antiseptic action of common salt.

It has been stated that by no means all the sources of sepsis concern the wound itself. The other principal sources of infection may be classified as follows :

1. Previous long-existent toxæmia, as syphilis, diabetes, acetohemia, lithemia, alcoholism, malaria.

2. Previous anatomical changes which reduce vitality, as inherited diatheses, old age, amyloid change, chronic and acute nephritis.

3. Recent or acute toxæmia, as uræmia, typhoid, intestinal toxæmia, stercoral toxæmia.

4. Other acute conditions as starvation, scurvy, anæmia.
5. Conditions of environment, as bad hygienic surroundings.
6. Effect of anesthetics.
7. Effect of antiseptics.

Antiseptics may favor infection in more than one way. Mercurial and iodoform poisoning are not uncommon. When this is established the case becomes one of acute toxæmia. The wounds may fail to unite and suppuration may occur again, or the chemical reaction between the vital fluid and the antiseptic may cause a loss of the properties of the antiseptic agent, while the tissues on which it acts may have their constitution so changed as to favor, rather than resist, infection. Investigations make it appear best to keep all antiseptic agents away from absolutely clean, fresh surfaces. The value of blood serum as an antiseptic has been abundantly shown. This will be poured out in quantity sufficient to serve not only as a cohesive, but as an antiseptic agent. The question here arises as to what is the best antiseptic. It would appear that for most purposes peroxide of hydrogen is the ideal antiseptic, as it not merely destroys living organisms, but by oxidation of undesirable and infected material acts as a scavenger of the tissues. We, however, have yet to learn how to utilize to the fullest advantage the properties of blood serum.

Direct infection may be of two varieties—self or auto-infection and contact infection. The principal sources of contact infection are as follows:

1. Skin and hair.
2. Instruments.
3. Sponges or their substitutes.
4. Suture materials.
5. The hands of the surgeon and his assistants.
6. Drainage materials.
7. Dressing material; and
8. Miscellaneous e. g., drops of perspiration, an unclean irrigator nozzle, the nail-brush, the clothing of the operator or bystanders, etc., etc.

The best plan of sterilizing the skin is shaving, followed for a day or two, if there is time, by some antiseptic ointment properly prepared. The skin should then be washed with sapo viride of the German Pharmacopœia with 5 per cent. of lysol or hydro-naphthol.

Then there should be worn until the time of operation a compress wet with some liquid non-irritating antiseptic, such as creolin, or lysol (5 per cent.), or hydro-naphthol in saturated cold aqueous solution. At the time of operation there should be a final scrubbing with hydro-naphthol soap, with shaving, and then the skin washed with equal parts of alcohol and ether, or alcohol and turpentine Where there is not time for this, we must content ourselves with the thorough use of the nail-brush, the razor and antiseptic soap, with the subsequent use of alcohol and ether.

Instruments are best prepared by dry sterilization, as this injures them less than other plans.

In regard to sponges there is nothing to be added to the well-known directions. It would seem better to use some cheap absorbent material which, after use, could be thrown away.

Silk is best sterilized by placing it in a test tube, then plugging and keeping for an hour in a steam sterilizer upon two different occasions. Silk-worm gut may be prepared by immersion for a few hours in a 1 per cent. aqueous solution of corrosive sublimate and then preserving in alcohol. Cat-gut is best prepared by immersion in benzine or ether to remove fat. It is then dried and soaked for one or two days in a 1 per cent. watery solution of corrosive sublimate, after which it is dried and transferred to oil of juniper berries, and from this to strong alcohol containing one permille of sublimate. In this, if desired, it can be boiled. It may be chromicised before putting in the oil of juniper.

The hands, even after having been in contact with septic matter, may be sterilized by the following method: Wash with soap and water, using nail-brush; then wash the hands and arms with flour of mustard, as though it were powdered soap. This will remove all odor. Then wash with sapo viride, c. p., to which has been added 5 per cent. of lysol, creolin or hydro naphthol; then rinse and immerse in a strongly colored solution of permanganate of potassium. They are then rinsed and immersed in a solution of oxalic acid sufficiently strong to decolorize the skin in two or three minutes. The oxalic acid is rinsed off and the hands may be considered aseptic.

Drainage is probably required only in septic or infected cases.

After an ideal aseptic operation we need only a sterilizad and a protective dressing. In some cases there may be advantage in impregnating the dressing with some antiseptic.

Among miscellaneous sources of infection may be mentioned the use of an unguent applied to the skin to prevent the adhesion of dressings. Experiments have shown that ointments made with even 10 per cent. of resorcin or naphthalin without the application of heat, contain bacteria. The same ointments heated to the temperature of boiling water seem to be sterile and to suffer only from air contamination.

Dr. Park presented the following:

1. Study of wound infection and of the septic condition thereby produced is inseparable from a study of what constitutes immunity.

2. By a study of immunity is furnished the best clue to a due appreciation of the principles of asepsis.

3. The surgery of the future must aim to be aseptic, for so far as fresh cases are concerned we have passed the merely antiseptic era.

4. Asepsis is to be achieved not alone by attention to the wound and the paraphernalia of operation, but by the closest regard to the condition of the patient's organs and tissues.

5. Sepsis may arise from circumstances and conditions other than those pertaining to the wound itself, although hitherto practitioners have been too prone to scan solely this field when searching for its cause.

6. Sepsis and infection are combatted in more than one way by natural agencies and by inherent properties of cells and fluids totally aside from the measures which the surgeon institutes, and the wisest man is he who studies to take advantage of these vital activities rather than introduce new and conflicting elements from without.

7. A recognition of the power of chemotaxis possessed by organized and unorganized materials in such varying degree can be utilized to great advantage so soon as it can be reasonably clearly defined.

8. A study of chengtactic activity appears to impress one with the truth of the phagocyte doctrine which is proven, which, if proven, is one having a large bearing upon the principles as well as the practice of the surgery of the future.

9. The proteid material contained within cellular infectious organisms both plays such a role in causing chemotaxis, as well as in

poisoning the animal infected, that we have reason to eagerly welcome all knowledge concerning it.

10. So fast as such proted material can be isolated we need, among other things, to study its effect upon the commonly used antiseptic agents.

11. We need to study much further the anti-toxic and bactericidal properties of human blood serum, and the means by we can avail ourselves of the same.

12. Some such classification as I have attempted to give of the various causes of lowered resistance to infection, or of the causes of vulnerability or susceptibility, will certainly assist in a due appreciation thereof, and will often aid in so fortifying the patient that he may resist infection to which he would otherwise succumb.

13. The condition of enterosepsis, fæcal toxæmia, stercoreal intoxication, or whatever it may be called, is certainly one which every practitioner has to fear and against which he should assiduously guard. It is not sufficiently generally recognized and combatted.

14. A sub-form of this condition might justly be made and entitled gastro-sepsis, comprising cases where defective stomach digestion, often from dilatation, brings about a lithæmic or other toxæmic condition which favors infection.

15. Antiseptic agents in the past have worked a revolution in surgical practice and results. We have now reached a time when we know that they all have their disadvantages, and also understand how, if we are strictly antiseptic in our work, we can afford to discontinue their application io wound surfaces.

LILACIN AS A MASK FOR THE ODOR OF IODOFORM.—Lilacin, the new perfume, which is really a definite chemical substance—terpineol—existing in various essential oils, and which possesses the odor of lilacs in a pronounced degree, is said to mask the odor of iodoform better than any other substance.—After *Therap. Monatsh.*

AN APPEAL FOR STATE CARE FOR ALL THE INSANE, FROM AN ECONOMIC STAND-POINT.

By Isaac M. Taylor, M.D., Assistant Physician State Hospital, Morganton, N. C.

(The Report of the Chairman of the Section on State Medicine and Medical Jurisprudence, made to the Medical Society of the State of North Carolina, May 28th, 1891.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

When looking about for a subject in the domain of State Medicine upon which to base the Report of this Section, I became interested in the growth of our lunacy laws and their apparent inconsistencies, as a result of this line of investigation, I shall ask your attention to some calculations, and conclusions drawn therefrom, upon the "State Care of all its Insane, from an Economic Standpoint."

Beginning with the establishment of the North Carolina Insane Asylum, the laws of our State show an appreciation by our legislators of the needs of the insane, and a determination on the part of our people to care for all who had been deprived of the proper use of their mental faculties.

So well had our first Asylum promoters studied the question of probable increase in insanity when building the North Carolina Asylum, that the institution was able to meet the demands for accommodation until 1866.

It is probable that this plan had in view gradual extension, as time demonstrated the inadequacy of the provision there made, and that the capacity of the one institution would have been increased, or there would have been other asylums built, but the coming of the war stopped all such philanthropic work, our people found on the several battle-fields those who needed all the comforts which could be spared from their scanty stores, and to provide for the common defence was needed all the public money.

With peace again restored, our people soon found that the provision for the insane made in 1856 had become too small.

The war, fruitful in causes which led to mental disease in those predisposed thereto, was followed by years of struggle under a load of public and private debts.

Families who had borne the burden of their insane relatives from their private means, were forced to seek relief at the State institution, and the negro race, freed from bondage and protection, and forced to rely on their own efforts in the struggle for existence, proved a fertile field for mental diseases.

Add to these causes the growing acknowledgment by the profession and the laity of the value of hospital care and protection, and the more ready recognition by the profession of cases of incipient mental disease, and we have the reasons for the seeming great increase in the number of the insane and the demand for their reception in the Asylum.

In the face of the depreciated values of taxables and the scarcity of money, recognizing the justice of the demands of this accumulation of chronic insane, our Constitution adopted in these troublous times, accepts for the State, in the fullest measure, the charge of all the insane, as well as the blind and the deaf mutes, and pledges the faith of the State to provide for the idiots and inebriates as soon as practicable.

These pledges were not modified when the State came again into the hands of its lawful sons, but recovery from the direful effects of the war was slow, and, in common with all our people, the insane had to suffer until the funds for their relief were available.

To carry into effect the provisions of the Constitution, and pending the building of other asylums, the first laws provided that all the insane should be cared for from the public Treasury, the Asylum was crowded to its utmost capacity, and those who could not be admitted there were generously supported at their homes.

This policy was soon demonstrated to be too liberal, leaving such an opening for wholesale frauds that, without fear of detection, unscrupulous persons in remote country districts, had those who were deliriously sick, the imbeciles, epileptics, paralytics and dotards adjudged insane that they might receive a share of the public fund.

Such was the rush that, to prevent the bankruptcy of the State, the next Legislature repealed this obnoxious law, and, accepting a policy which had been tried in some of our sister States and by them declared adequate and humane, gave to the care of the counties all the insane except such recent cases as presented prospect for recovery, those whose malady was accompanied by such violent demonstrations that they seemed dangerous to the community, or those who were adjudged insane when arraigned for crime.

Immediately plans were set on foot for the building of additional asylums to meet the increased demands, but unfortunately, their size was based upon false statistics, and before they were opened the census of 1880 showed the gross errors of that of a decade before, and they afforded only a modicum of the relief needed.

It is probable that the intention of our Legislature when the Eastern Hospital at Goldsboro and the State Hospital at Morganton were projected, was for the State to again assume the direct care of all the insane. Since they have been opened the only increase of capacity has been made at the expense of the comfort of those cared for by the institutions and from funds originally appropriated for their support and saved by judicious economy.

Here beneficent legislation stopped, in disregard of the testimony of all those who had investigated the subject, that our present attitude to our unfortunate brethren was pernicious, and despite the appeals from the friends of the insane emphasized by each succeeding report made by the superintendents of our asylums, our legislators have been deafened by the counter cry for economy, and our people, ignorant of the real condition of affairs, have been contented with a system which is an outrage on humanity. Rude is the awakening to each individual when necessity forces one to seek relief.

Such was the development of our present system, and as each member of this Society must be acquainted with its barbarities, it is needless for me to review what was presented at the last two meetings of this Society in the reports of this Section by Drs. Battle and Hodges.

Our people are conservative, but I believe they are willing to do what is humane and benevolent, and accepting this as their attitude, I have endeavored to calculate the cost of humane provision for our insane in answer to the query :

"Can our State afford to care for all her insane in State institutions ?"

Unfortunately the results of the eleventh census as to the number of insane in our State are not yet available for the calculations of this paper, and the basis used must still be the census of 1880, accepting the ratio therein established as still existing, and calculating the number of insane now in the State on the total population as shown by the census of 1890.

It is safe to assume that the results thus reached will be nearly correct, as the statistics of the tenth census have been proved, and the ratios there shown are in accord with those previously determined, and it is probable that the ratio will hold good for the ten years just past, there has been little change in the character of our population. No horde of pauper immigrants from Europe have found a settlement in our borders; there has been a healthy growth, the natural increase of our own people augmented in the main by native Americans from our sister States northward.

Nor have there been causes to greatly disturb the ratio between the producing and dependent classes—no war or great financial crisis and no famine or widespread epidemic.

So, without a material increase in the proportion of those who must share the public charity, there has been a considerable advance in the value of taxables, and on every hand is evidence of more positive recovery from the financial disasters following the civil war.

There were in North Carolina in 1880 white insane 1,591, and colored insane 437, making a total of 2,028; of these 269 were in the one Asylum then open, 218 were in poor houses and 23 were confined in jails, leaving those cared for at home 1,518.

The ratio of increase in population, as shown by the eleventh census is, for whites, 20.98 per cent., and for colored, 6.76 per cent.; so, if the proportion is preserved, there are now in the State white insane 1,925, colored insane 448—a total of 2.373.

The increase in Asylum room since 1880 has been, at the State Hospital 500, at the Eastern Hospital 250, and the North Carolina Asylum has, by over-crowding, been caring for 300 patients, though constructed for only 204. Taking a mean number, 250, as its capacity, we have the total hospital room now available as 1,000—an increase since 1880 of 784. This leaves the total number of insane in our State and unprovided for at the hospitals 1,373.

That we may have an outside figure, for ease in calculation, and to leave some margin for increase, I will assume that we are to provide for 1,400 insane.

Assuming that the hospitals now opened are ample for the care and treatment of the acute cases, the violent and the convalescent, we have before us the problem of caring for 1,400, all of the misnamed harmless and incurable class. The first consideration is the provision of a plant suitable for their reception.

The estimated cost of the hospitals for the insane in the United States shows an average of about $1,000 for each patient accommodated; this average embraces much money wastefully spent for elaborate and needless architectural ornamentation and fittings and a good round sum spent in political jobbery. The costliest construction is not needed for the class of insane who are now unprovided for, however essential it may be in hospitals ready to receive all classes.

In our State, where land, materials and labor are cheap, and where there are no extremes of temperature to be guarded against, provision could be made for all, at a *per capita* cost not to exceed $300, provided, of course, that such extension is made in connection with the hospitals already established, and advantage is thus taken of the provision there made in excess of their needs; this would make an aggregate cost of $420,000.

Provide for this by an issue of bonds at 6 per cent., which would leave a liberal margin for a sinking fund, and we would have an annual interest account of $25,000, but the construction is necessarily slow, and an annual appropriation sufficient for the amount of building possible to be economically done, could be made without increasing the public debt or oppressing the tax-payers.

The cost of maintainance is more difficult to approximate, the average cost *per capita* for maintainance in our three institutions is estimated at $167.78. This shows a steady yearly reduction of expense *per capita* since 1871, when it was $303.73, in spite of the fact that year by year our hospitals have been caring for a greater proportion of acute cases necessarily the most expensive class.

This reduction is due to a number of factors—the lower prices of the necessaries of life, a more economical administration of the affairs of our institutions, but more largely to the increased number of insane cared for and a consequent reduction in the cost to each individual of the expenses of administration.

This cost by further extension of asylum accommodation is capable of much greater reduction than is contemplated in the provision for those needing asylum care now in the State.

The cost for the class of harmless and incurables probably would be not far from $130 *per capita*—a total annual cost of $182,000, or, if we include the interest account, at an annual cost of $207,200.

Considering only the maintainance account, we have before us the fact that for $352,700 all the insane of our State could be cared for within the walls of our hospitals. This would necessitate an increase of State tax of about four and a half cents on each hundred dollars worth of taxable property.

It must be borne in mind that this is not a new expense, each idle individual consumes his proportion of the public wealth, and the charge is only transferred, in some cases from the counties, in some from private families to the State, and it is probable that, with the economies of wholesale provision, there is a saving effected rather than an increase of expense.

Dr. Hodges has calculated that the average *per capita* cost of maintainance in the county poor houses is $85.78, so for the increased amount of $44 22 would be given such comfort as would be sumptuous in comparison, food plentiful and wholesome, medical attention and supervision in sickness and in health, cleanliness and such occupation and amusement as would be best suited to each individual capacity.

This I conceive to be a true statement of the cost of suitable provision for all our insane with the estimates made in excess rather than below the actual cost, the only argument now urged against such provision is on the ground of expense, and while the aggregate is large, the cost to each individual is small, and to balance this are manifest advantages. These naturally group themselves into three divisions—to the Insane, to the Community, to Posterity.

To the insane the advantages are:

1. The removal of the necessity for classing one portion as harmless and incurable, and for that reason denying them a chance for recovery.

Probably no single cause has been so productive of harm as this necessity, forced upon us by our present system. There is no alienist so skilled that he is able to pronounce with certainty upon any case of insanity as harmless; fed, clothed, kept clean, amused, his sighest ailment considered and treated, the patient may be tractable and inoffensive, under other conditions, half starved, uncleanly and brutally treated, the dormant fires of insanity leap into flame and the docile patient becomes a dangerous maniac. Nor are there those so skilled as to pronounce one incurable; the records of all hospitals contain accounts of unlooked-for recoveries—patients, after long years of chronic mental disease, recovering their reason and remaining perfectly well.

But even if the classification could be made, it does not remove the necessity for the tenderest care; because one is harmless does not mean that he is cleanly, or that he is quiet, or that he is willing to remain at one place and be protected from storm and cold.

2. Their protection from the sane in the community. This is a condition which is not met in the poor-house care of our unfortunates; it is a positive need; they are the victims of the gravest wrongs, from the jeers of the thoughtless to the cruelties of the wicked.

Especially is this protection needed by the female element, unrestrained by the higher moral impulses which are the accompaniments of a sound intellect, often with erotic tendencies as a symptom of their mental disease, they are easily the victims of the most vicious ot the community. It is appalling to know how many of these helpless ones have been debauched.

3. They would no longer be brought in contact with paupers and criminals.

It must be remembered in this connection that the insane, dependent wholly for support upon the public, are not properly paupers, until brought low by disease they were producers and tax payers, contributing their proportion to the care of their unfortunate fellows; less than 5 per cent. come from the pauper class. A still smaller per centage are from the criminal class, and many have a keen sense of the degradation of being confined in the poor houses and jails.

4. It would give suitable employment to each one. All well-conducted institutions seek to keep the patients constantly employed at work suited to their mental and physical capacity, and though many protest against being so employed, it is a great help in keeping them contented and in preserving health and strength.

The advantages to the community are:

1. An assurance to each one of high or low degree in the event that such a misfortune should befall any one of his family, no matter what the form of the malady, proper care would be taken

of the unfortunate, and every chance for recovery would be given under the guidance of those acquainted with the needs of the case, a safe conduct to health, if possible, and careful protection in the event of incurability.

2. Freedom from a troublesome or dangerous element in the community.

3. A grateful reduction of expense by the utilization of the labor of the better class of insane in productive work.

The amount of work which can be done by such persons is large, while never enough to be self-supporting, each little helps, and just so much is the burden lightened on the shoulders of the tax-payers.

4. A sense of a duty properly done and a knowledge that the demands of humanity are fully met.

To posterity some of the advantages are:

1. A gradual reduction of the ratio between the dependent classes and the producers.

There is no factor in the production of insanity and mental defects more persistently present than heredity. Dormant in one generation, it is rife in the next. Necessarily if the progeny of the insane are born during such insanity the defect is more likely to be transmitted, so, while it would be impossible to prevent the marriage of those who have an hereditary tendency to mental disease, the sequestration of those actually insane will greatly reduce the number of their descendants.

Already the Commission in Lunacy of the State of New York announce that there is an apparent reduction in the annual increase of insanity, and attribute it, in part, to efforts in this direction.

2. A reduction in the ratio of the criminal classes. This would be in consequence of the same supervision.

Students of sciology are every day more clearly showing that the criminal classes are the results of degenerated physical and mental powers. Says Maudsley, in speaking of criminals: "Other important facts disclosed by their family histories are that a considerable proportion of them are weak-minded, or epileptic, or become insane, or that they spring from families in which insanity, epilepsy, or some other neurosis exists, and that the diseases from which they suffer and of which they die, are chiefly tubercular diseases and diseases of the nervous system. Crime is a sort of outlet in which their unsound tendencies are discharged; they would go mad if they were not criminals, and they do not go mad because they are criminals."

In addition to the consideration here given to the needs of the chronic insane, I had hoped to ask your attention to some of the claims of the imbeciles. Although their number is large and many are deserving of some relief, there has been no effort in any direction toward the amelioration of their condition, and there is not available any data upon which to argue for their betterment. Reluctantly I abandon the whole theme to some other who may be able to direct the public attention to these unfortunates and hasten the time when it is practicable to establish institutions for their education and protection.

In conclusion, I have but to say that the time will come when the State must assume the care of all its insane—the longer it is delayed the greater must be the first outlay for their accommodation and the annual charge for their support.

The present system has had a long and fair trial and has proved barbarous; any effort to reform it short of its total abolition is practically hopeless.

State care is the only solution of the problem which meets every objection—it is benevolent, it is humane, it is economical.

STAMPING OUT SMALL-POX.—Dr. J. M. Boyles, City Health Officer of Houston, Texas, relates in the *Abstract of Sanitary Report*, of January 26, 1891, an instructive history of an epidemic of small-pox in that city. On December 4, 1890, a circus arrived in Houston with a case of small-pox, which was kept concealed until after the circus had left several days. On December 21st small-pox made its appearance in several parts of the city simultaneously—in hotels, boarding-houses, etc. In less than five days there were 41 cases, mostly white. How many cases had been exposed at this time could not be estimated. At the suggestion of the Health Officer the City Council made vaccination compulsory. The house-to-house plan was adopted. Of the 21,000 persons vaccinated there was no bad effect—no amputations or deaths. Some suffered several weeks with sore arms. In 40 days Dr. Boyles succeeded in getting the disease under control. Of the 349 cases no one contracted the disease that had been vaccinated under 11 years. Some vaccinated 49 years ago had varioloid, but of such a mild type it was not necessary to go to bed. There were 120 in the quarantine hospital that had been vaccinated and were exposed who did not take the disease.—*Medical Record.*

REPORT OF THE SECTION ON THERAPEUTICS.

By W. H. Wilson, M.D.

(Read before the Medical Society of North Carolina, at Asheville, May 26th, 1891.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

It affords me much pleasure, as Chairman of the Section on Therapeutics, to report that this branch of medical science has kept pace with the wonderful progress of our profession. The past year has not shown so marked progress in the introduction of new remedies as in the more thorough understanding of those in use, in their proper administration. Clinical experience of the past year has shorn some of our once lauded remedies of their glory, while the discovery of the true merits of others entitle them to a prominent place in our list of therapeutic remedies.

Antipyretics, a class of remedies but recently introduced, have stood the test of experience, and are now regarded as among our most valuable remedial agents. The most strict conservatism should be the true guide for their use. This would, in fever, limit them to use in a condition of hyperpyrexia. To be more clearly understood, I will define the terms pyrexia and hyperpyrexia: Pyrexia is usually applied to a simple fever, where the temperature does not exceed 103°, hyperpyrexia when above that point. I, however, believe there are exceptions to this arbitrary rule for the use of antipyretics.

Owing to the peculiarities of some individuals, a condition we define as idiosyncratic, we have what I consider an indication for the use of their remedies. We frequently find a patient suffering with severe headache, thirst, great restlessness and excitement of the nervous system, when the temperature does not reach a condition we term hyperpyretic, while, on the other hand, we find cases where the temperature is hyperperetic, these symptoms are absent, or mild. Hence I consider antipyretics indicated whenever the symptoms are present with fever, without special regard to height of temperature.

These symptoms indicate congestion of the nerve centres from the fever, and therefore should be relieved by the ingestion of antipyretics, due regard being paid to the strength of the patient a condition of exhaustion contraindicating their use. To this class belong antipyrine, antifebrine, phenacetine and acid analine. The effects of all are very similar, though their strength is different, and should be used in doses accordingly. Antipyrine may be given in from 10 to 15 grains, while the doses of the other antipyretics are usually from 3 to 8 grains, as per effect and condition for whose relief they are administered. I have found nothing but favorable results from these drugs when judiciously administered for the proper diseased condition. When I use them for reduction of temperature I invariably follow them by supporting doses of quinine as soon as perspiration begins. When this rule is followed we need never fear any prostration from their use. In the incipiency of their use too large doses were given. It is rarely ever necessary to give more than 10 grs. antipyrine or 6 of the others to reduce temperature sufficient. In addition to the use of these remedies in fever I have found them most valuable agents for the relief of asthma, especially the spasmodic variety, aching of dengue, la grippe, spasmodic laryngitis, congestion of lungs. I consider these agents valuable in pneumonia, acting as well on the temperature and nervous system as on the circulation. Their effects are salutary, in small doses, in the dyspnœ of advanced state of consumption, care being exercised in regard to patient's strength.

I have also found them most valuable remedies for the relief of rheumatism, chronic or acute, muscular or articular; neuralgia, sciatica, migraine, headache in its various nervous forms. They form many happy combinations with salol, morphia and salacine for the above enumerated conditions as per effect desired.

Adonis vernalis is a new cardiac tonic similar in its effects to digitalis, is useful in dropsy and various heart affections. Its action is similar to digitalis in rendering the heart-beat slower, stronger and in increasing excretion of the kidney.

Ajowan, a remedy containing thymol, is claimed by Dr. Warring to be a most efficacious carminative; he also claims for it remedial properties in cholera. It has also been found to be valuable in alcoholism, and should be given a further trial in that condition. As an ingredient of poultices it is said to have the property of relieving superficial pain.

Arsenite of copper is still regarded as one of our most valuable recent additions to our list of therapeutic remedies. In the diarrhœa of typhoid fever I have found it more valuable than opium, bismuth and pepsin. In simple diarrhœa, in combination or in connection with sulpho carbonate of zinc, I consider our most efficacious treatment, rendering the use of opium unnecessary or in much less quantity than formerly—in dysentery its results are alike salutary.

Balsam apple has been used in the treatment of colic with success; also as an efficient emetic was introduced by Dr. McNeil. Local pain-relieving properties are attributed to it. It is also recommended as a hydragogue in dropsy.

Mosquera's beef meal and cocoa is a valuable food product, being largely introduced by P. D. & Co. Every physician, no doubt, has had experience in endeavoring to nourish his patients by artificial food, but this preparation seems now to have relieved him of that annoyance. Many of the so-called foods are not only useless, but repulsive to a delicate stomach. This preparation I have found to be pleasant, agreeable to the most sensitive stomach and highly nutritious—the property most to be desired.

This preparation is indicated in all cases of wasting diseases and may be administered in soup, animal broths, milk, eggs, tea or on toast. The great variety of ways in which it may be administered being of much advantage, as patients do not thus tire of its use. Its merits entitle it to a trial in all cases where an artificial food is indicated.

Berberis aquifolium is a new remedy recently introduced by P. D. & Co., which has valuable alterative and antisyphilytic properties. It is also useful in obstinate skin diseases.

A fluid extract corn silk is valuable in cystitis, also as a demulcent diuretic, and is efficient in those conditions of the urine where ammoniacal decomposition is going on in the bladder, drachm doses every four hours usually being sufficient to secure its physiological effects.

The preparations of jambul seed have recently been used for the relief of diabetic condition. Its effect is said to be due to its inhibitory action on the diastatic ferments, lessening the formation of sugar. The bark is also said to be useful. The facts in regard to this preparation justify a further trial for the relief of diabetic conditions.

Convallaria Majalis is a new cardiac tonic made from the roots, flowers or herb, the fluid extract of the root being the strongest. Its action is too slow and strengthens heart-beats. It is an active poison in over-doses; but has not the disadvantage of a cumulative effect. It is also a diuretic. It is claimed to give relief when other tonics fail. Dose, 10 to 15 minims every six hours or *pro-re-nata.*

Liquor sedans is a scientific compound of black haw, golden seal and Jamaica dogwood with aro. It is valuable in utero-ovarian irritation, ovaritis, neuralgia of uterus, metargia, etc.. This is an excellent compound, the result of scientific blending of remedies so essential to therapeutic success.

Salycilate of soda has recently been found to be a valuable agent for the relief of colds, bronchitis, and in la grippe its action is seemingly specific in relieving the headache and muscular aching due to this universally popular disease. I have used it extensively in these conditions with eminent success. To get its fullest effects we must administer it in large doses (20 to 30 grs.) every six hours, or *pro-re-nata.*

In regard to the beneficial uses of pepsin and pancreatin, I find to obtain the fullest effect pepsin should be administered early after meals, as its action is expected to benefit stomach digestion, or digestion in its initial process (mastication excepted), while pancreatin is active only in duodenal digestion. When pancreatin is administered immediately after taking nourishment it is destroyed in the tedicus process of stomach digestion; but when administered near the end of stomach digestion it passes rapidly into the duodenum, where it performs its function as an active agent of digestion in its alkaline media. For these reasons pancreatin should be administered from two to four hours after the digestion of food, owing to character of nourishment taken.

Antikamnia is a coal-tar preparation which has been found valuable in migraine, headache, hemicrania, rheumatism, neuralgia, and in the various forms of painful nervous affections. Its action is very similar to the antipyretics mentioned in the first part of this paper.

Beneficial results may be derived from compounding sol cocine with phenol. The following results are obtained by adding the phenol; toxic effects are prevented, decomposition of solution avoided. Local congestion does not follow the use of solution with phenol—anæsthetic effect heightened.

SELECTED PAPERS.

EXPLANATION OF RENAL DROPSY.

By Dr. W. Howship Dickinson. (Abstracted from his Harveian Oration.)

The following facts must be had regard to in any explanation of renal dropsy which the future may have in store for us. If we look at the character of the effusions in different kinds of dropsy, certain broad facts present themselves which appear to have significance with regard to their mode of production. The chief components of such effusions differ from each other as crystalloid and colloid : the salts crystalloid and highly diffusible, except under pressure Under osmosis salts should transude without albumen, under pressure both together. Now whatsoever be the cause of the dropsy, the effusions in the same place are essentially the same; not without differences, but without any such differences as would seem to imply an essential different mode of origin. The effusions vary much with situation, little with disease. Those into the serous cavities are always rich in albumen, those into the cellular tissue poor in albumen with equal constancy. The mineral salts vary scarcely at all. Thus the similarity of the effusions cannot fail to suggest that renal dropsy is made in much the same way as those which are obviously due to vascular obstruction. Osmosis, as measured by the salts, is nearly the same in the two kinds, while the albumen in both implies a process other than osmosis, which is certainly pressure in one case and may be so in the other. Any view, therefore, that renal dropsy is especially a result of osmosis, must be abandoned, and our inquiries directed anew to the nature of the process. When renal dropsy sets in the urine is usually below par, but the relation of dropsy with the quantity of urine is not constant enough wholly to explain the process. With obstructive suppression dropsy is usually totally absent, while it is frequently present under the diuresis of diabetes. Such facts must find their explanation in any adequate theory of such dropsies as are not coarsely mechanical; and I venture to submit that, whether coarsely mechanical or not, modifications of blood-pressure are largely, if not mainly, concerned in the dropsical process. Anæmia has been thought to be concerned in renal dropsy; but we often see intense and even fatal anæmia under the name pernicious without any such effusion, whence it may be concluded that anæmia alone is not enough to cause it. With obstructive suppression arterial tension, so far as can be learned by the finger, is conspicuously wanting, while death occurs by asthenia or syncope. Low blood-pressure with no dropsy where it might otherwise be expected, is at least suggestive of the need for more facts. In acute nephritis, where the urine is only scanty, not suppressed, we see high blood-pressure, and together with this dropsy. Want of urine does not alone and of necessity cause renal dropsy; increased arterial tension would seem to be a necessary intermediary, at least of this variety of it. An increase of arterial tension beginning with the earliest stage of nephritis, accompanying the œdema, and increasing with it and the disease, has long attracted notice. I could, if it were necessary, adduce a large number of tracings in proof of this assertion, which I think will not be doubted. If further evidence be needed on this point, it can be found in perhaps the most conclusive shape in the hypertrophy of the left ventricle, even in the acute forms of the disease.

After death, within ten weeks of the onset of acute renal dropsy, I have found decided hypertrophy both of the left ventricle and of the muscular coat of the arteries. Hypertrophy of the left ventricle has long been accepted, and hypertrophy of the arterial muscle must be equally accepted as evidence of an obstacle ahead—in front, that is, of the major part of the arterial system, which on this evidence, as well as on that of the sphygmograph, must be over-charged and over-tight. The next question is where precisely is the arterial exit impeded, in the arterioles or in the capillaries? Upon this much turns. Renal dropsy, presumably, depends on excess of exudation, not deficiency of absorption; this can scarcely occur elsewhere than from the capillaries, whose walls alone are adapted to the process If the primary obstacle is in the arterioles, as Johnson supposes, the blood must be in a measure shut off from the capillaries, the pressure on them reduced, exudation from them lessened, and the view of renal dropsy which I am about to submit abandoned. But the doctrine of capillary obstruction preponderates, and, to use a political phrase, holds the field. It has been urged that the capillaries are not muscular; on the other hand, it has been shown by Roy and Graham Brown that they are contractile; besides which we cannot doubt what has long been inferred, that the blood may acquire peculiarities which add difficulty to its transit. That the obstruction is beyond the minute arteries of the retina and the brain is shown by their often bursting from the pressure to which they are subjected by their contents. We have no choice but to go further and attribute the impediment to the capillary system, whether from change of blood *per se*, or from vascular contraction engendered by it. With stoppage in front and accumulating systolic force behind, increase of transudation would seem to be inevitable. Whatever be the nature of the hindrance in the capillaries, we may presume from the phenomena of inflammation that it is consistent with an increase of transudation from them. So far I have shown that the form and stage of renal dropsy under discussion is at least associated with what may be called the mechanics of the circulation, which are necessary corollaries of the simple laws which we owe to Harvey. Whether the increase of pressure is complicated with any such secretive process as Dr. Waymouth Reid infers must be left for the future, but the more simple action seems too obvious to be excluded.

Now let me turn to a later phase of renal dropsy in which also the action of the heart and arteries is to be reckoned with. As the hypertrophy of these structures increases, the effusion independently of medicine tends to lessen and disappear. It would almost seem that this hypertrophy, whether of the heart or arteries, or both together, is the natural cure for the dropsical state. This at first sight is difficult to reconcile with the early increase of dropsy, together with increasing arterial tension; for now, with advancing hypertrophy, the tension becomes greater, but the dropsy less. The hypertrophy is little of the right ventricle, mainly of the left ventricle and the arteries, and appears to militate against the dropsy so long as the cardiac change is unaccompanied by dilatation. Whether the heart or arteries have the more to do with this mitigation must be taken into question. The arterial thickening cannot fail, so far as I see, to obstruct the access of blood to the capillaries and dam it back in the heart and larger vessels, with the result of increased tension and increased cardiac hypertrophy. Here comes in the stopcock action, and with it lessened capillary pressure and lessened exudation. Now let us glance for a moment at the left ventricle and the change of proportion which renal disease accomplishes for it. Look at the thickness and solidity of the wall and the comparative smallness of the cavity as yet undilated. Beside the obvious increase of contractile power which the increase of muscle entails, the expansile power must be increased even in a greater degree since it must have to do not only with the thickness of the wall, but also with its extent; in other words, with the size of the cavity. The smaller the cavity in relation to the thickness of the wall, the greater the rigidity of the chamber and its consequent expansile power. The suction thus exaggerated must tend to pump out the water-logged tissues by drawing first upon the lungs, then upon the systemic veins and their tributaries. The hypertrophy of the right ventricle, so far as it goes, will also have an effect in aiding the circulation in the lungs and systemic veins, but it does not seem to go far enough to be of much use. It is worth noting, as bearing upon its nature, that renal dropsy, like cardiac, is acted on remedially by the horizontal posture; not only is the œdema moved, but often removed, and that, as we must infer, by reducing the pressure in the veins and capillaries of the dependent parts.

I now approach the last aspect of renal dropsy in relation to the circulation. After a time the hypertrophied ventricle begins to stretch, and then not only loses expansile power, but valvular adaptation. Dropsy reappears or increases, and is now as much cardiac as renal. Mitral regurgitation ensues through the widened orifice, though the valves may be healthy, and a murmur is often heard which may mislead the unwary as to the origin of the disease; and as a more striking consequence, pulmonary apoplexy with hæmoptysis presents itself as a direct and simple issue of the cardiac changes of advanced renal disease. Did time permit I could show by examples that this complication, so generally associated with disease proper to the heart, may be primarily and essentially renal, a result of the advanced granular kidney by way of vascular tension, cardiac hypertrophy, and cardiac detriment. The time at my command will not allow me to include in this consideration of renal dropsy that of lardaceous disease, which is far from simple. I hope to refer to this at some other time and place; but apart from this I venture to think that I have shown that the dropsy of kidney disease has an association with the dynamics of the circulation, which, though it may be less obvious and more complicated than that of cardiac dropsy, is not less real. All present themselves as connected with the movements of the blood, not in the remote or indirect manner in which almost every operation of the human body can be so traced, but under the immediate control of whatever impedes or adds force to the current.—*Brit. Med. Jour.*

ERRORS IN DIAGNOSIS.

By William Cadge, F.R.C.S., Consulting Surgeon to the Norfolk and Norwich Hospital.

I ask permission to say that I stand here now as a conscript rather than as a volunteer. I have no unique or striking cases that I desire to communicate, and I am not conscious of possessing any new development or theory of disease struggling to find utterance. When, therefore, I consented to read a paper to-day, I thought that, next to endeavoring to advance the general stock of knowledge, the best course to adopt might be to try to add to the security of that which we have by pointing out errors into which I and others have fallen. Having yielded in this matter, chiefly to my friend Mr. James Worthington's pressure, and having mentioned the subject I should probably handle, he replied to me in this pleasant way : " By the way, do you remember a particular case in which you made a great mistake ?" This made me pause, and I reflected that, if many of my friends here to-day should, as they probably can, round on me in this prompt fashion, I should have a bad quarter of an hour, and should repent of my rashness. However, I resolved to persist in my intention. I am willing to offer myself as an oblation to the advancement of science, and I even challenge Mr. Worthington, when I have done, to describe this case in which I was so much mistaken, because it is clinically interesting, as it led to an error in treatment which he had the sharpness to detect and the skill to rectify.

Confession of error, however, need not imply blame. Mistakes in diagnosis may be due to various causes—to inherent obscurity of signs and symptoms of disease, to misleading statements by patients or maligners, or to our imperfect physiological knowledge; but in addition to these inherent causes of error, mistakes too frequently arise from the carelessness or the ignorance of the surgeon. We may, perhaps, divide medical men into two classes, those who are over-cautious and those who are over-confident. The over-cautious are less often wrong than the others, but they labor under a great disadvantage, for a patient who sees that a doctor cannot make up his own mind is apt quickly to find somebody who can. There is an exception, however, to this rule: an eminent London surgeon or physician can withhold an opinion and plead for suspense of judgment without forfeiting the confidence of the patient, while the general practitioner would at once lie under the imputation of ignorance. I was calling one day last year on a prominent surgeon in Liverpool; he had a patient at the time in his consulting room with a doubtful tumor of the breast, and he invited me to examine it. I asked my friend to give his opinion, and he replied: "I think I have reached a position here which entitles me to say I don't know what it is."

The over-confident men, men who are cocksure, who in their own opinion never make mistakes and who pronounce their decision boldly, are, in my experience, very often wrong, and when they are wrong they are palpably and hopelessly enveloped and beyond friendly extrication. The cautious man who is in error has probably left himself a loophole of escape through which he can in some measure save himself, but the cocksure man stands convicted by his own bold declaration, and his only alternative is to declare that he has been misunderstood, and that after all he really saw the true bearing of the case.

In my student days I was clinical clerk to a distinguished physician of the cocksure type. A man had died in hospital of peritonitis, as proved at the post-mortem examination. The physician examined the general condition and took his leave; he constructed an ingenious theory to explain the cause of the inflammation, but he did not know, what I discovered after he had left, that there was a malignant stricture of the rectum. This was carefully removed, and the following day at the clinical lecture, after the professor had got well beyond the etiology of the disease, the specimen was presented on a plate, with many apologies for being late; there was a momentary halt and confusion, but our over-confident teacher quickly recovered himself, and asserted boldly that he had had a strong feeling that disease of the rectum might be present, and he thought that he had mentioned it.

This same physician made another bad shot; the case is historical, and is worth mentioning. Mr. Liston was suddenly attacked with hæmoptysis to an alarming extent, the source of which could not be explained by Sir Thomas Watson and other men of note who examined him; they could find no physical signs indicative of aneurysm until signs of pressure on the windpipe and on the recurrent laryngeal nerve made the diagnosis of tumor or aneurysm evident, and this was only a short time before his death. The over-confident physician I have mentioned, however, at an earlier period of the case declared that there was evidence of tuberculous consolidation at the left apex; he attributed the bleeding to this cause and prescribed accordingly; but when I made the post-mortem examination and found no disease whatever of the lung, but an aneurysm of the aorta situated precisely behind the centre of the sternum, the physician declared that he had suspected the existence of aneurysm or tumor, which I, who was present at the consultation, can declare he never mentioned; and I have documentary evidence to prove that, in his opinion, Liston's case was one of pulmonary tubercle.

I am tempted to allude briefly to one more mistake of this self-confident physician. When I was acting as demonstrator of anatomy at University College I was asked to make a post-mortem examination of a gentleman who had died very suddenly; he and Dr. Roots were hurriedly summoned and arrived at the house together, but not until after the death of the patient. They heard the history of the seizure, and gave the opinion that apoplexy was the cause of death.

Just at that time Mr. Paget was giving a course of lectures at the College of Surgeons on Pathology, which I was attending. Amongst other subjects he dealt with fatty degeneration of muscular tissue, and I had in my mind his clear and vivid account of this change. In conducting the post-mortem examination I was somewhat taken aback to find that the brain was entirely healthy and that there was no indication of the apoplexy of which it was supposed the patient had died. Pursuing the inquiry, I found the heart large, soft and greasy, and under the microscope exhibiting in an extreme degree that fatty degeneration which Mr. Paget was then describing. My eyes were opened wide at this discovery; the subject, so well understood now, was new at that time—more than forty years ago. I thought the matter well over and saw its important clinical bearings. Other similar cases soon occurred showing the same pathological appearances, and I felt sure that I was on the path towards valuable results. I soon found, however, that my old friend, Dr. Quain, was working on the same lines, and I retired from the inquiry, giving over to him the cases and notes which I possessed. I only allude to this matter now because it may interest our honored visitor, Sir J. Paget, to know how quickly his excellent teaching began to bear fruit.

There is, perhaps, another class of medical men who are apt to fall into errors, not from carelessness or ignorance, nor from too much caution or over-confidence. Rather they are men of argumentative ability, of subtle thought, and of much learning, prone to search for hidden and remote causes when plain ones lay straight before them, and they are fond of constructing cunning theories when common sense and experience will easily explain all. They lack that faculty of estimating the true value of this or that symptom, that intuitive insight which may be designated as sound judgment. Oliver Wendell Holmes has illustrated this class in a very humorous way when he makes the hero of the breakfast table consult Dr. Benjamin Franklin about a discoloration on his forehead, the result of a slight bruise; the learned young doctor examines it in every possible way, goes elaborately into the family history, hints that it may be a case of morbus Addisoni, and explains fully the nature of that disease. The patient is alarmed; but his landlady eases his mind, applies a vinegar cloth, and the disease quickly subsides. The patient moralizes on the matter thus: "Science is a first-rate piece of furniture for a man's upper chamber if he has common sense on the ground floor; but if a man hasn't got plenty of good common sense, the more science he nas the worse for the patient."

I well recollect some years ago visiting a case for a medical friend, now deceased. The patient was rich, indolent, lived in a fine house, and fared sumptuously every day; he had a swelled and inflamed foot, and, putting these conditions together, my friend informed me that it was a case of gout. Probably the aspect of things had altered somewhat between his visit and mine, but it was obviously not gout at all, but ordinary phlegmonous cellulitis, which spread up the whole limb and ended in suppuration and sloughing of the cellular tissue, which nearly cost the patient his life.

Let me, however, advert briefly to one or two diseases which in my observation have been most frequently overlooked or mistaken; and I would give the first place to diabetes, a disease which manifests itself with so few objective symptoms and in such a variety of ways. Cataract, as we well know, is often the accompaniment of diabetes, and I have heard Sir W. Bowman say that he had in a vast number of cases recognized diabetes—before unsuspected—by the peculiar appearance of the opaque lens. The coexistence, too, of boils and carbuncles and of gangrene of a toe or finger—or even of suppuration of a joint of a toe or finger—with diabetes is common and familiar enough; but I have seen quite a number of cases of so-called prostatic disease in old men in which the frequent micturition depended not on the readily-suspected hypertrophy of the gland, but simply on the fact that, having a large quantity of urine to discharge, the bladder required frequent relief, and it is well to remember that this large quantity of urine and frequent micturition, though commonly due to ordinary diabetes, is occasionally the effect of diabetes insipidus. So, too, the coexistence of diabetes and lithic acid gravel and stone is not uncommon, and should be borne in mind, for the combination is formidable, and may prevent the cure of the otherwise curable stone.

The mention of stone leads to the remark that next to diabetes the presence of stone in the bladder is perhaps most frequently either overlooked or undetected. There is no surgeon living—no matter how great his experience and his manipulative skill may be—who does not occasionally fail to detect a stone that exists in the bladder. I plead guilty to this myself, for I have had it brought home to me, and have felt not a little chagrin and self-reproach at my shortcoming. I am not going to describe the various methods of sounding for stone, but I wish to allude to one source of mistake only, which I have met with over and over again. I can best illustrate it by a case. A London hospital surgeon who was spending his holiday on the coast near Cromer met with a sturdy old fisherman who had all the symptoms of stone. He induced the man to go to his London hospital, but he was surprised that, when there, no stone could be detected; he examined again and again, and called in one or more of his colleagues, and eventually sent the patient home with the opinion—afterwards expressed to me—that malignant disease of the prostate was probably the cause of his symptoms. Yet this man had a stone which was successfully removed by lithotomy in the Norwich Hospital, and the explanation of failure to find it I believe was this: the patient was a tall, fat man, aged 72, with an enlarged prostate, and the bladder was very deeply placed and distant; an ordinary sound would go to its usual extent, and could be partially rotated, but I soon found that it required considerable further introduction and even to push back the flexible part of the urethra on the sound in order to reach the bladder; when it was reached the stone could not be missed, but I have no doubt that my London friend had never passed the sound fully into the bladder, but had only examined the deep prostatic sulcus, and the limited movement of the sound he probably attributed to a contracted bladder.

I am warned by time that I must forego the mention of the mistakes and difficulties which so frequently occur in the diagnosis of tumors; whole chapters—even volumes—could be usefully written on such a subject; so, too, on the detection of feigned diseases, but I will conclude with the mention of one of the latter kind which has found a place in the standard literature of surgery.

In the third volume of Brodie's miscellaneous works is a description of what he calls "dry or white gangrene of the skin." A portion of skin of the size of a shilling, or larger, dies and turns white, or dries into an amber-colored, horny slough, and is separated by ulceration; the wound heals, but a succession of these mortified patches follow one another, and seem interminable. He gives three cases, and showed in lecture a wax model of one of them; all the patients were young women with anæmia and irregular menstruation; little is said of the treatment pursued except that it was not very effectual, and the patients left the hospital and were lost sight of.

How many of us have ever seen a case of white gangrene of the skin? One such came under my notice long ago, when I was house surgeon at University College Hospital. It tallied exactly with Brodie's description; piece after piece of skin about the size of a shilling or half-a-crown turned white, necrosed, and was separated and the wound healed. The patient was a young woman, and she was the object of great attention by the surgeons and the students because of this rare and peculiar disease, and because, too, she was very good-looking. She stayed in the hospital many months, then she left, and was lost sight of for a time. At length the history of the case was completed; she became an in-patient of the Brighton Hospital; there suspicion arose, a watch was set on her, and the cause of the disease—which in London was explained by some ingenious hypothesis in more than one clinical lecture—was found to be a pennyworth of strong sulphuric acid and a glass rod! She was ignominiously expelled from the hospital, and I believe she committed suicide soon after.

I have always thought that Brodie's white gangrene of the skin had no better foundation as to its etiology than, and probably the same as, existed in this case. I may, however, be mistaken, and I give this opinion with diffidence; but if I am right—if so astute, so careful, and so experienced an observer as Sir B. Brodie was mistaken—we may all take comfort in the reflection that neither age, learning, nor experience can prevent occasional error. The older we grow the more wary do we become; we know the pitfalls into which we may fall and probably often have fallen; whereas the young practitioner, who has not yet been much confronted with his own blunders, with the enthusiasm of youth and the complete teaching of the schools, is apt to be more sure of his opinion, more free in expressing it, and therefore more frequently in error. This, however, I may say, quoting the witty words of the late Master of Trinity College, "We are none of us infallible, not even the youngest."—*British Med. Jour.*

Two CHILDREN were playing on the sidewalk and a lady passed them.

"She's a grass widow," said one.

"What's a grass widow?" asked the other.

"Gracious! Don't you know that?" said the other, scornfully; "why, her husband died of hay fever."—*St. Louis Medical and Surgical Journal.—Southern Clinic.*

EDITORIAL.

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THE ANCIENT AND THE MODERN PHYSICIAN—ST. LUKE AND JENNER.*

It is pleasant and encouraging to note the thoughtful study which physicians now and then give to the sacred Scriptures, for as a profession we have in times past had the reputation of slighting the sacred book. We are especially edified by the address of the President of the Medical Society of Virginia (Dr. W. W. Parker) on the two physicians, St. Luke, "the beloved physician," the inspired

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* Title of an address delivered before the Medical Society of Virginia, at Lynchburg, October 7th, 1891.

Apostle, and Jenner, the model experimentalist and most successful physician of all history.

With no other book than the New Testament from which to draw his biographical material, much of Dr. Parker's narrative is founded upon inferential suggestions, and may be considered at times more fanciful than his facts would warrant. At any rate such a portraiture as he has given of the physician-apostle, although it is the minor side of his character, is well worth a careful reading, and will doubtless be largely enjoyed.

No less than an abounding knowledge of the Gospels and the Acts of the Apostles would enable a speaker to put his audience in the midst of a tableau so intermixed with reality and with inferential occurrences. A paragraph here and there will suffice to indicate the speaker's method of treating his characters, and must serve as our apology for not reprinting his entire address :

"LUKE THE DOCTOR AND SAINT.

"There has been found lately at Thebes a splendid papyrus sixty-five feet long known as the papyrus Ebers, bearing date one hundred years before the birth of Moses, describing the circulation of the blood and filled with various medicinal recipes. Luke having lived one thousand years later, his medical writings may yet be brought to light by some enterprising archæologist. From his own statement he must have been an early convert to the Christian faith. He was at Jerusalem during the crucifixion. On the day the resurrection was announced it seems that he was summoned to a patient, perhaps at Emmaus, a small village near Jerusalem. How strong must have been his desire to remain in the city and discuss this all-absorbing subject! Yet, accompanied by a disciple named Cleopas, he was proceeding to the village, when lo! he found himself in company with his risen Lord.

"This doctor, as you all know, was named Lulas, or Luke. Eusebius and Jerome both say he was a physician by profession. It is also said he was a fine painter.

"My opinion is that Luke was diverted from his profession by Providence in the latter part of his life not only to take care for the frail body of Paul, but to prepare the two most important books in the great new revelation of God to man. Could any doctor or profession be more highly honored?"

The comments upon St. Luke as the inspired author of the Acts of the Apostles leads the speaker to a sublime contemplation of him as a great witness.

"A GREAT WITNESS.

"Lawyers have sound views about evidence. They want no 'hearsay' testimony—a man must be an 'eye-witness,' must know of his own knowledge to be credible. In Luke's first work, 'The Gospel,' regarded by all critics as far superior to Matthew, Mark or John, see how he measures up to the legal standard as a witness: 'For as much (says he) as many have taken in hand to set forth in *order* a declaration of the things which are most surely believed among us, who from the *beginning were 'eye-witnesses'* of the word, it seemed to me also, having had *perfect understanding of all things from the very first*, to write unto thee in order, most excellent Theophilus.

"Can any lawyer refuse to hear this witness? Alas! some do. Luke said he had *perfect understanding of all things from the very first.* It is possible for even the Greek language to express more clearly and forcibly his qualifications. Moreover, all critics—and they are legion—agree that Luke's statements are generally sustained by facts. They are orderly, elegant and accurate. Josephus sustains him in most of his historical references, even as to dates. As valuable as his first work is, the second is far more so. How eloquent is his introduction to the 'Acts of the Apostles.' 'The former treatise have I made, O Theophilus, of all that Jesus both began to do and to teach, until the day in which he was taken up, after that he thought the Holy Ghost had given commandment unto the Apostles whom he had chosen.' To whom he showed himself alive after his passion, by many infallible proofs, being seen of them forty days and speaking of the things pertaining to the kingdom of God. 'What a strong and comprehensive statement; '*infallible proofs*' showed himself *alive forty days*, 'speaking' with his followers. These are strong words. None but theologians can appreciate the value of Luke's history of the Primitive Church in the elucidation of its doctrine and practices."

And so in his narration of the defence of the proto-martyr Stephen he gives a living picture which increases our interest in the only Apostle who was of our guild.

"HIS ELOQUENT DEFENCE.

"His report of the defence of Stephen before the Sanhedrin surpasses in eloquence and invective Cicero's oration against Catiline. Stephen was dragged before the High Court for heresy. Luke says his face shone as that of an angel. I do not suppose this radiance was of divine origin. Enthusiasm and eloquence do shed a sort of halo about the face. It seems the burning flame within the brain flashes out through the eyes and spreads over the entire face. I have seen something of this. All really great orators have it in some measure at times. The result of this grand oration, ending in burning invective, was such that the mob stopped their tell-tale ears and rushed upon the holy man and dragged him into the street and beat out his brains. Luke says these ruffians laid their clothes at the 'feet of a young man named Saul.' It shows what regard Luke had for the truth of history to record this disgraceful act of his friend and patient. Those who contend for the 'verbal' inspiration of the Scriptures might say that they were not Luke's burning words. Why, then, are they superior to the words of Matthew? The Divine fingers were on the cords of the *finest* instrument, hence the sweeter melody. But for Luke we would have never heard of the parable of the Lost Sheep, the Good Samaritan, the Prodigal Son, Paul on Mar's Hill, the history of John, Ananias and Sapphira, Cornelius, of the Centurion; Peter from prison and Rhoda at the Gate, and, greater than all, the *Wonders of Pentecost*. What an incalculable loss would these have been to the world!"

We only intended to give a glimpse at Dr. Baker's address, and so must hurry on to what he says about Jenner.

We can see that the speaker is full of admiration for the great life-work of Jenner, although in making record of him he gives but the residue of the time from the account of St. Luke.

Here is a short sketch of Jenner which we have abstracted from the address:

"DR. EDWARD JENNER.

"Edward Jenner, LL.D., F.R.S. (vain and feeble titles), was born 17th May, 1749. His father was a minister, and so was his mother's father. The family possessed considerable landed property and was of great antiquity and respectability in Gloucester county, England. He entered school at eight years, and at nine mastered a collation of the Dormouse. While other boys were playing he searched for fossils. He studied pharmacy under Mr. Ludlow and medicine and surgery under the celebrated John Hunter, and lived two years in his family. While at tea a discussion arose as to the exact locality of the intensest heat from the flame of a candle, whether at the top or a little above it! Jenner thrust in his finger and decided in favor of the latter. He resembled Luke in many respects, was highly cultivated, a very close observer, modest and gentle in manner and very benevolent. He was also of a very cheerful temperament, sang much and wrote poetry; would sometimes ride twenty miles through the country with his friends admiring nature. He delighted to receive and also to impart knowledge. He was rather short of statue and robust, but active. He dressed with neatness, disliked cards on account of the time consumed and the evil tendency.

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"As a healer of the body Jenner surpassed in numbers the Saviour himself and all his apostles and disciples combined. (Christ was a healer of the soul.) This is not said in disparagement of the 'Master,' but to his honor, as he said, 'Greater works than these shall ye do, because I go to my Father.' Independent of Jenner the Gospel has, by its 'homes for orphans' and multitudinous hospitals for the sick and aged, saved many more lives than did the apostles. The prayers of pious parents for this wonderful and Christian son may have been an 'unknown quantity' in his glorious discovery."

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"A VIVID PICTURE OF THE TIMELY HELP OF VACCINATION AMONG THE NATIONS OF THE EARTH.

"Great painters have vainly attempted to describe the fiery flying serpents that stung the sinning Israelites—bad enough to have serpents beneath the feet, but *winged serpents*, their lithe and tortuous bodies swooping down upon your defenceless head from mid-air, is too horrible for contemplation. But I saw a sadder sight. I saw *the dreadful small-pox procession among the nations*, in numbers more than the three million Israelites in the wilderness. It was of every nation, kindred and tongue. The cry of despair filled the air. It spared no age, sex or condition. It attacked animals, wild and domestic, by thousands, whose cries and counter-cries went up to Heaven. The men and women it failed to kill it marred in face and limb for life. At its approach families fled their homes, and towns and villages, depopulated, sought the mountains. Mothers themselves attacked, dropped dying infants from their loving arms with wild lamentations—the widow her only son.

"There seemed no help. The heavens were shut up and mercy had fled, The cry of the great multitude, like the 'sound of many waters,' rose to high heavens as the dread procession moved along the dreary, dusty way. In its wake came horrid ghouls and multitudinous grave-diggers, who, with mattock and spade, vainly strive to cover the dead from the hungry vultures that hide the sun. But hold! I see a strange and glorious sight. The column is halted. A man with a wondrous wand touches the arms of the sufferers, and lo! disease and death depart, strength comes back to the feeble limbs, sight to the eyes and joy to the heart. Oh! wondrous worker, who art thou? Whence comest thou? My name is Jenner! My home, Britania!"

A CASE OF PHYSIOLOGICAL ALBUMINURIA.

The final opinion about physiological albuminuria must be based upon the accumulation of well authenticated cases, and the following case is recorded as a part of that history.

A young man applied to a physician for insurance in an assessment insurance society, but when the urine was examined there was found to be albumen; he advised him to withdraw his application and consult his family physician about treatment. This he did in March, 1890. His urine was then examined by chemical and microscopical test weekly and then at longer intervals. There were no casts found, but albuminuria persisted. He was put on milk diet and gained flesh, but was never at any time in any state of health calling for treatmeht except for the albuminuria. He consulted other physicians in New York and Wilmington, and now, twenty months after the first discovery of albumen he has gained flesh and increased in vigor, gaining in the time named twenty-one pounds.

The clinical test of albuminuria in such a case is of more value than the revelations of the test-tube or microscope, and we think we may truthfully record this as a case of physiological albuminuria.

REVIEWS AND BOOK NOTICES.

A Text-Book of Practical Therapeutics, with especial reference to the Application of Remedial Measures to Disease, and their employment upon a rational basis. By Hobart Amory Hare, M.D., B.Sc. Second edition. Philadelphia: Lea Bros. & Co., 1891.

This is a compact volume of 667 pages, arranged alphabetically as to the drugs described, and diseases to which remedies are applied. The introductory general therapeutical considerations are brief and practical, treating of the modes of action and modes of the administration of drugs, doses, idiosyncrasy, duration of the action of drugs, indications and contraindications, combination of drugs and incompatibility. We could not agree with the writer in such sweeping rules as to incompatibility as he lays down. For instance, "an acid should never be combined with an alkali," would be two very good combinations that have to be made extemporaneously by country doctors; salicylic acid with soda bicarbonate, and benzoic acid with ammonia. That "an acid should not be added in any quantity to a tincture" would not be agreed to by those who give Huxham's tincture with elixir vitriol. His list of incompatibles is a necessity for the doctor's who knows nothing of pharmacy. We would like to see this list revised and enlarged.

The description of the action of drugs is divested of all unnecessary discussion, and is given in a straight-forward manner of a practical teacher. We would call particular attention to the reminder, if not the new teaching, on the use of cold water, as quoted from Dr. J. Wm. White, in diseases affecting the lower end of the bowel and its outlet, and those involving the genito-urinary system. Among the first are hæmorrhoids, prolapsus ani, pruritus ani and eczema of the margin of the anus. The cold water treatment as recommended is used by means of a "bidet," the one to be preferred is the one which can be attached to the water-closet seat. It ought to have a nozzle capable of throwing a stream of the calibre of an ordinary lead-pencil or a little larger. A fountain syringe would be the substitute for the appliance mentioned, and since a "system of medicine" has been established under the propagandism of a "specialist" named Hall by the help of the ministers in our Southern territory, it is well to know that his profound secret, which is mysteriously transmitted, and under a sacred pledge, after paying a large fee, is one that may be used by any citizen who has a wise doctor to direct him.

The second grand division of the volume considers diseases and the remedies applicable to them, beginning with "Abortion," and taking a list of the most important, alphabetically. This department the writer has accorded a greater space than is usual in a text-book on therapeutics, thereby limititing the space of therapeutics proper, a plan which will greatly popularize the volume. A very complete index is given, and to this the supplement of an Index of Diseases and remedies is appended.

Many of the newer remedies are given, even to "pyoktanin"—really methyl violet—which is having its brief day as an antiseptic, but its birth and death might be, and really is, written in the same paragraph.

For convenience of reference, sound therapeutics, conciseness of detail, we can commend the work to our readers.

Practical Pathology and Morbid Histolgoy. By Heneage Gibbes, M.D. Illustrated with 60 Photographic reproductions. [Price $2.75.] Philadelphia: Lea Brothers & Co., 1891.

The author, appreciating the high degree of perfection to which the art of photo-engraving has reached in this country, has yielded to the suggestion to prepare a text-book covering "the essential points with which the student must become familiar in the work of a pathological laboratory."

The volume therefore gives instructions in preparing tissues for examination, on cutting sections, on staining, on injecting the vascular system, and on the management of a pathological laboratory.

In practical bacteriology, cultivation media, plate cultivations, experiments on animals, microscopic examination of microörganisms are considered.

The third part of the volume considers morbid histology, inflammation, hypertrophy, degeneration, neoplasms, and all the essential forms of morbid tissues The concluding section is about the photographic reproduction of the tissues as seen in section under the microscope. He points out the great advantage of obtaining the *fac simile* picture of the tissues in preference to those made with the camera lucida, which latter are indeed, except in the hands of very skilful artists, only schematic pictures. However good a description may be of the technical steps, nothing but the minutest instruction in the laboratory will make either a good section-cutter or a photographer.

The book is most beautifully printed and the illustrations, which are photographic reproductions, are excellent specimens of the art.

HAND-BOOK OF MATERIA MEDICA, PHARMACY AND THERAPEUTICS, Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription-Writing. By Samuel O. L. Potter, A.M., M.D., M.R.C.P. Third Edition Revised. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. [Price $4.00 in cloth.]

We did not expect in so short a time to pass under review another edition of this "Hand-Book," although we anticipated from the first edition that the sale would be large. The author evidently understood the needs of the medical public and kept his audience well in view while collecting and arranging his material. Many a good text-book misses its mission by niggardliness in indexes and references—not so our author; he has not only brought rich material together with the knowledge of the wants of the great mass of busy doctors, but he has made it an indispensable work for the office table. What a boon to a hurried man to catch up with the smallest amount of hunting just the new item he wants for an emergency, or to refresh himself about an old drug—its name, dose, effects. He may not consider it the sort of book he may want to "buckle down to" and study, but many of the latter are respectable shelf-keepers which the average doctor always intends to read when he is not so pushed for time, the Hand-Book will be a companion, and its thumb indexes, to the different sections a boon.

A TEXT-BOOK OF PHYSIOLOGY. By M. Foster, M A , M.D., LL.D , F.R.S. Fourth American from Fifth London Edition. Philadelphia: Lea Brothers & Co., 1891.

In the present edition of this work we recognize a most thorough revision. The size of the page which, in the English edition of 1878 was smaller and comprised 640 pages, in this is increased in size of page with the addition 400 pages. In the edition of 1878 the author starts out with the bold statement: "Blood is a tissue of which the corpuscles are the essential and active elements, while the plasma is a liquid matrix"; thirteen years later the author says of it: "The blood consists, * * * under normal conditions, of an almost colorless fluid, the plasma, in which are carried a number of bodies, the red and white corpuscles." All through this chapter on the blood are evidences of the new matter which physiologists have added to our knowledge of this fluid. In the old edition it is said of the origin of the red corpuscles: "It is concluded that the red corpuscles take origin from the colorless nucleated corpuscles similar to, if not identical with, the ordinary white corpuscles of the blood." In the present edition we have:

"In speaking of the formation of the red corpuscles we said that not only is it not proved that the nucleated corpuscles which give rise to red corpuscles are ordinary white corpuscles, but that in all probability the real hæmatoblasts, the parents of red corpuscles, are special corpuscles developed in the situations where the manufacture of red corpuscles takes place So far, therefore, from assuming, as is sometimes done, that the white corpuscles of the blood are all of them on their way to become red corpuscles, it may be doubted whether any of them are."

We will just make another citation to show how great a march has been made in physiological research—for we may take an author to be a conscientious worker fully *au courant* with his department, and his work therefore to be a just criterion—and that is the addition of the knowledge of the part played by microörganisms, especially in the changes which occur in the digestive processes in the intestinal canal. Thirteen years ago the word microörganism does not so much as occur in the index.

One of the marked features of the volume is the absence of historical allusions. Apparently intent upon producing a text book within the limits of a thousand pages, has been obliged to deny to students that which makes physiology the most absorbing of the branches of medicine—a sketch of its historical development. No large bibliography, no foot-notes referring the student to the work of others can be found, until we get to the appendix, where animal chemistry is treated. We will note here that in this department of the work we find the most careful revision, rendered necessary by the extension of this department of science. But to resume, the student may safely take the dogmatic utterances of a teacher of such large experience and trust to the more encyclopediac works for elaboration.

What we have said of one section of this book applies to all the others, that is a full and complete revision and amplification up to the latest advances. We note especially that in the old edition the spinal cord and brain is increased from 73 pages to 216 in the present.

We note a wrong pagination in one place which has been carried forward in the index—the word "bile" is indexed true to the wrongly numbered page 551, instead of 351.

The present American edition contains all of the completed parts of the fifth English edition, with some matter by the American editor, and we commend it most heartily to students and physicians as a text-book of the first quality.

A MANUAL OF HYPODERMATIC MEDICATION; THE TREATMENT OF DISEASES BY THE HYPODERMATIC OR SUBCUTANEOUS METHOD. By Roberts Bartholow, A.M., M.D., LL.D. Fifth Edition. J. B. Lippincott & Co., Philadelphia. [Price $3.00.]

A work that has come to its fifth edition and still holds the field, need have very little said about it by the reviewer. If the profession needs a separate work on the administration of medicines with the hypodermatic needle, it has in this volume the best of all of them.

We note that the latest drugs are introduced and their virtues commented upon, that the old ones are reviewed, and the author has spared no pains to give from his large experience the best that there is to be known.

The history of the introduction of the hypodermic use of morphine will disappoint some of the claimants to it, two or three Americans having been left out in the record, but we all find it easy enough to admit the claims of Alexander Wood, of Edinburgh.

Hypodermatic medication has opened a vast field to the practitioner, the chief merit of which is prompt responses to the remedies in emergencies, but its irresponsible use by opium habitués makes some of us wish that there had never been such a discovery.

If the author has mentioned the use of nitroglycerine hypodermatically, it does not appear in the index either as trinitrin (*Ger. Phar.*) or glonoïn (*U. S. Ph.*), although it does not appear on p. 504 under the head of amyl nitrite.

The Comparative Anatomy of the Domesticated Animals. By A. Chauveau, M.D., LL.D., Revised and Enlarged with the Coöperation of S. Aloing, Director of the Lyons Veterinary School. Second Edition. Translated and Edited by George Fleming, C.B., LL.D., F.R.C.V.S. With 585 Illustrations. New York: D. Appleton & Co., 1891.

This work has fully occupied the field of comparative anatomy of the domesticated animals that it has no rival in our language. The editions since the first American, issued in 1873, seem to have been little more than reprints from the old plates. At any rate, the English translator, the distinguished ex-Principal Veterinary Surgeon of the British Army, Mr. George Fleming, has given the present edition a most thorough revision, based upon the fourth French edition of 1890.

If this volume is not familiar to the readers of our Journal, they can hardly be said to have seen the only work that fully elucidates a subject which is of growing interest to the practitioner. If he be a country doctor, of necessity interested in farm animals, he will find a scientific volume, produced with all the dignity and scholarship of the best standards on human anatomy, from the pen of the renowned Chauveau, of the Lyons Veterinary College.

This branch of medicine has always been greatly neglected in the schools, the University of Virginia alone giving instruction on comparative physiology, but with no text-book, but Carpenter's Comparative Physiology. Latterly we have the excellent volume of Mills on Comparative Physiology, showing now that advances are being made in this branch of anatomy.

This work is really a superb one, both in its mechanical execution and in the high quality of the scientific and literary work, but this need not be written except for those who have not yet had the pleasure of seeing it.

CURRENT LITERATURE.

THE CIRCULATION OF THE BLOOD OUTLINED IN THE TWELFTH CENTURY AND MADE KNOWN IN ITALY IN THE FOURTEENTH CENTURY.

Anticipations by the poets of discoveries in science are nearly always mere figures of speech, beautiful and impressive as such and remarkable as unintended prophecies. but not to be accepted as foreglimpses of scientific facts. Such is the expression of Puck in Midsummer Night's Dream when Oberon, King of the Fairies, sends him on a mission to bring him a certain flower, "I'll put a girdle round about the earth in forty minutes." The Puck of the telegraph and the cable has made good the promise of Shakspere's airy minion, no thanks, however, to the poet's knowledge or prescience of electricity and its handmaiden arts. But such a scholarly bard of an earlier day as Dante might well be expected to know everything known in his age that could illustrate the sublime themes about which he discoursed in a spirit to prefigure modern culture. And so, turning curiously to the exile's noble work, "The Divine Comedy," many obscure tidbits of learning are found. Nor is this all. Hitherto its probable that men of letters and men of science alike have altogether failed to see in the 25th canto of the Purgatory, or second part of the Italian's great vision, evidence that he anticipated in the rough by more than three centuries Harvey's discovery of the circulation of the blood. His theory in the entire canto was derived from an Arabian philosopher, his commentators say, but they fail to recognize a medical statement of obviously high import in his elaborate description of the process of life and even in the words "Blood * * * in the heart derives effectual virtue, that informs the several human limbs, as being that which passes through the veins itself to make them," and other words pointing to the heart as the recognized seat of physical activity. Averrhoes, the most famous of Arabian philosophers, whose medical work, the Colliget, seems to have been the authority for Dante's singular description, was born 1120—just two centuries, lacking one year, before Dante died—at Cordova, Spain, then the seat of culture and dominion of the Saracens, or Moors. The most remarkable thing about the whole matter is not that he should have discovered, as Dante announced to Europe, the circulation of the blood through the heart and the governing power of the heart in the system, but that such scholarly critics and popular writers as Matthew Arnold, such learned translators and annotators as Cary and Longfellow, should have never suspected what a wonderful fact was slipping through their fingers. Perhaps in explanation it will denied that either the philosopher or the poet knew what he was talking about, because he did not put into practice in the medical schools and hand down to us the full results of the theory stated. In that way several grand discoveries may have been appropriated by later investigators. There is nothing to show that Harvey stole his any more than there is to show that Christopher Columbus stole his laurels. In either case—the Arabian or the Norse—the discovery had been hidden away and forgotten. Still, it is very singular, indeed, that in the full blaze of 19th century science and culture the fact seems to be unknown that the discovery of the circulation of the blood in its outline was made in the 12th century in Moorish Spain and made known early in the 14th century in Italy.—CICERO W. HARRIS in *Washington* (*D. C.*) *Evening Star.*

ALCOHOL ON THE BRAIN.

Enthusiasm sometimes makes us acquainted with strange teachings, and, unfortunately, the more noble their aim the more do some inflated gospellers regard it as justifying ignorance of the groundwork of their creed, and even something not far short of actual dishonesty in its presentment. Next to personal example there is, perhaps, no surer method of laying the foundation of lifelong temperance than the simple and intelligent inculcation of its principles during early youth; but it is perilous to build for future sobriety with statements which the pupil's later knowledge may demonstrate to be ludicrous untruths. There lies before us a publication, intended for the edification of juvenile abstainers, which contains a series of "temperance talks for boys and girls," and, if the other articles correspond in style and matter to that on "Alcohol," the honest advocate of temperance has good reason to pray that his own and his neighbors' children may be saved from the teaching of his friends. The teacher in this lecture is provided with two bottles, an egg, a box of matches, a tumbler, and, unfortunately, a credulous audience. The alcohol in one bottle is to be distinguished from the equally colorless water in the other by its "sour and bad smell" and by its inflammability. Moreover, when added to the white of the broken egg, and the mixture diligently stirred, the class is made to observe that the egg "is cooked." We are informed that "alcohol likes water, . . . and always drinks it up as quickly as it can." Having already learnt, in a previous lesson, that "seven-eighths of our bodies are composed of water" (this proportion is somewhat high, at all events for those not given to the ingestion of *aqua pura* only) we further learn that, inasmuch as "our brains are composed mostly of albumen and water," like the white of the egg, "when we drink anything with alcohol in it the alcohol goes right to the brain and hardens or cooks it, just as it has cooked the egg," while, "if we drink only a little bit of alcohol, then it hardens little streaks in our brain." The correspondent from whom this pitiful burlesque has been received describes himself as a total abstainer who believes that the world would be better for either (1) "prohibition" or (2) more liberal powers re-restraining habitual drunkads. Many of our readers doubtless are of his mind in this matter, but all will echo his pertinent inquiry: What about this sort of school teaching of physiology? Doubtless the class will, for the time, swallow the *olla podrida* of amateur chemistry, physiology and pathology as readily as they would have swallowed the egg, and may come eventually to imbibe the alcohol—for childhoods faith is measurable only by the ruin that ensues when in later life the deceptions which won its acquiescence are exposed. Criticism is in no way disarmed by the fact that the writer of these "Temperance Talks" is a woman, for a woman may prove an excellent teacher of elementary physiology, provided she is mistress of her subject. Not long since the temperance lecturer on an English platform, who had been demonstrating this same egg and alcohol experiment, and had told his audience that the gin and whiskey which they drank was continually producing the same results upon their delicate brain tissue, was disconcerted by an inquiry as to whether alcohol was, in this respect, more deleterious than common salt, because the interrogator had frequently observed at breakfast that salt tended to coagulate his egg, making it adhere pertinaciously to the egg-spoon. And there are some grounds for hope, even in this case before us. We would not attribute too much to the statement that this publication is entered as "second-class matter" at the New York Post Office—that may be only the expression of official irony. There is more comfort in the two lines on which are based the moral of the lecture—"What do we do with our brains?"—"Think with them"—for it is to be observed that the reply comes, not from the teacher, but from the class.—*British Medical Journal.*

SOME OF THE POSSIBILITIES OF ECONOMIC BOTANY.

The *Nation* (October 22) gives the following abstract of some practical remarks by Professor Goodale, of Harvard, on the possibilities of the future of the introduction of more food plants. The abstract is from his presidential address before the A. A. A. S.:

"Dr. Goodale had lately returned from the meeting of the Australian Association for the Advancement of Science in New Zealand. He compared the total number of plants known to botanical science or probably existing—upwards of 110,000—with that of plants and trees either cultivated for their multifarious properties or utilized in the wild state; the latter being less than 1 per cent. of the former. The question arises whether there is any probability of important additions to our short list of vegetables, fruits, cereals, fibres, dyes, flavors, drugs. Professor Goodale traced the history of our present cereals, and estimated that if a universal blight should overtake them, and them alone, our experiment stations could, from those left untouched, develop equivalents in a half century; and he named the wild rices of the lakes and some sea-shore grains as already worthy of experiment. Taking up vegetables he enumerated the clearly distinguishable varieties of the commonest, which are surprisingly many, and quoted from Vilmorin a most striking illustration, in the case of the cabbage, of the range of variations and obscurity of indications as to the available possibilities of the wild plant. The progress of the tomato from the highlands of Peru furnished another instance. From Japan Professor Goodale thinks he may borrow certain beans and roots and salads.

What he had to say as to roots was most captivating in the hope held out of eventually raising seedless berries and grapes, coreless apples and pears, stoneless cherries and plums, propagated by bud division, as in the case of bananas and pine-apples. In this department, too, Japan will help us out. The address closed with an indication of the way in which promising plants should be systematically investigated under exhaustive conditions, in the interest of commercial botany."

ONE OF THE GREATEST TRIUMPHS OF TUBERCULIN.

One of the greatest triumphs we owe to tuberculin is that which has been gained with reference to the diagnosis of tubercle, more especially of pulmonary tuberculosis, a matter of such paramount importance for practical purposes. There exist now almost numberless instances of individuals with regard to whom, with the previous means of diagnosis, one could only *suspect* the existence of pulmonary tuberculosis, but who even after the first injection of tuberculin were proved beyond doubt to be so affected, either through the occurrence of a characteristic reaction or by the demonstration (for the first time made possible after tuberculin had been injected) of tubercle bacilli in the sputum, set free by the local action of the tuberculin. In another way, too, the tuberculin has proved itself of great clinical importance by demonstrating that in many cases there existed numerous latent tubercular deposits, although it was supposed that only one strictly localized deposit was present. It may be well to refer here to the frequency with which affections of the apices of the lungs are accompanied by secondary processes in the superficial lymphatics of the axillary and supra-clavicular regions, and of complications affecting the synovial membrane, bones and other parts, which were first recognized after injections of tuberculin.—*Brit. Med. Jour.*

A STUDY RELATIVE TO THE FUNCTIONS OF THE REPRODUCTIVE APPARATUS IN AMERICAN INDIAN WOMEN.

NC Med J (os) 28:297-304, # 5, Nov 1891.

Dr. Andrew F. Currier, of New York, read a paper with this title before the American Medical Association. A careful examination of the Indian question as it was presented to the people of the United States must lead, he said, to the conclusion that the Indians must submit either to civilization or to extermination. Civilization and savagery could not coexist at close contact; savagery always had to yield. The lines were fast closing around savages and savage institutions in this country, and *they* would have to yield. To break up tribal distinctions, give the Indians land in severalty, educate them, abolish polygamy, barbarous costumes, heathenish practices, and keep whiskey away from them, was the present policy of the Indian Bureau, and it was wise, just and hopeful.

The author's investigation had been made with the approval and coöperation of the Hon. Thomas J. Morgan, Indian Commissioner, the late Surgeon General, Dr. J. H. Baxter, and the present Surgeon General, Dr. Charles Sutherland, to whom he wished publicly to express his gratitude. He also desired to publicly thank the Indian agents, physicians employed at Indian agencies, and army surgeons who had coöperated with him and advised him, and without whose generous assistance the investigation could not have been made. The data had been obtained in the face of the greatest obstacles, for Indians were ignorant, superstitious, prejudiced and suspicious, and the time required in many instances was considerable—perhaps more than was warranted by the results to be obtained.

From twenty-eight Indian agencies and army posts interesting facts had been gathered, all the correspondents being in immediate communication with the Indians, some of them for many years, and all being entirely reliable sources of information. The report of the Indian Commissioner for 1890 was also freely consulted and was the source of much valuable information.

The subjects upon which information was sought included menstruation, conception, gestation, parturition, the puerperal period, the menopause, sexual appetite, pelvic disease, including venereal and malignant, and a variety of others of kindred nature. In children the great frequency of glandular disease, including the venereal, was noted, and the great mortality among infants.

Puberty was reached in the Southern tribes—the Apaches, Mojaves and others—quite early, the average in a given number of Apaches being 12·86 years. In the northern tribes it was reached later, the average in a given number of Cheyennes and Arapahoes being 17 years. In a large number of Sioux the average age was 15·11 years. In most of the other tribes the average age was under 15, and it was believed that savage life *per se* neither hastened nor retarded puberty, but that climate, occupation and hereditary tendency were the factors of greatest importance. With very many Indian women, especially the more degraded, the coming, course and going of menstruation were alike matters of indifference. They neither knew nor cared as to its duration. At four agencies the duration had been observed, and the limits given were two and six days. Seldom was there any pain with menstruation; in some of the tribes it was said to be present at the first menstruation, but rarely afterward. Among the Indians who had become civilized painful menstruation was not infrequent. The quantity of blood lost was almost invariably a matter of indifference. Only a single case of amenorrhœa was reported.

The advent of puberty was celebrated by barbarous dances in some of the tribes. At the Quapaw Agency (Indian Territory) the "stamp dance" was thus celebrated. At Round Valley Agency (California) the menstruating girl joined in a furious dance with older women, keeping it up until thoroughly exhausted. At the Neah Bay Agency (Washington) the menstruating girl fasted three days, then was stripped naked and washed in a stream in the presence of her friends and relatives. After this her parents gave "pil potlach" (giving away of blood), which was very disgusting and said to be analogous to a birthday party.

The menopause seldom caused any trouble. The age at which it came showed as wide a diversity as it did among civilized women, and there was also the same variety as to duration—it might come abruptly or it might require several years.

Marriage was said to be mainly a matter of convenience or inclination in most of the tribes, with nothing especially serious or binding about it, either party leaving the other as the notion prompted. Polygamy was still common in some of the tribes, though the Government was endeavoring to break it up. Virtue and chastity were ignored altogether, or but lightly esteemed, in all but few of the tribes. A change for the better in such matters was most marked and most gratifying in some of the localities which had been under educational and religious influences. Among the Klamaths (Oregon) young men men were not infrequently married to old women. Among the Crows and Assiniboines marriage arrangements were between a girl's parents and her suitor. The latter paid a horse for her, or some other object of value; the girl then measured the man for a pair of moccasins as a sign of acceptance, went to his lodge, and was henceforth his wife. The marriage and divorce customs among the civilized Cherokees were much the same as among intelligent whites. The ceremony might be either a simple agreement between the man and the woman, or the more formal one of the church or state. Cherokees were said to be more virtuous or stricter in regard to the marriage relation than whites.

Marriage in most tribes was consummated very early in life—at 17 or under; in many cases almost as soon as puberty was reached.

Conception and gestation were favored in the majority of the tribes by an ardent sexual appetite and an out-of-door life, and large families of children were of frequent occurrence. Abortion seldom occurred as the result of the severe labor and other trials to which Indian women were all subject, but was common enough as the result of syphilis and criminal interference. Among the more degraded and physically inferior tribes the families of children were small. In almost all the tribes the infantile mortality was very great. The struggle for existence on the part of an Indian baby was a severe one. Some of the women drank decoctions of certain herbs to prevent conception. The Crows and Assiniboines used the most violent means for producing abortion. One of them consisted in thrusting a sharp stick into the vagina and womb and rupturing the ovum. Another consisted in causing the patient to rest her belly against the top of a stake which was driven into the ground and about two feet high, and whirl around upon this until the fœtus was expelled. In yet another, the patient lay on her back on the ground, a large board was laid across her belly, and upon this two or three of her female friends, in turn, stood or jumped until the blood gushed from the vagina, or the belly was kneaded or tramped upon until the fœtus was expelled.

Among these Indians last mentioned when the baby was born the umbilical cord was cut with a new butcher-knife, the stump was well greased, and the infant was then thrust into a laced sack of blue cloth containing pulverized bull's manure or the inner bark of the cotton-wood tree. This lining, with the child's discharges, was changed three or four times daily. When the stump of the cord dropped off it was preserved in a beaded pouch and worn around the neck or waist as long as the person lived. Parturition was usually a natural and easy process with Indian women. One of the author's correspondents graphically said it was about as easy as for a cow to have a calf. With many women no assistance during that process was required or tolerated. With others midwives were employed, and these manifested varying degrees of superstition and ignorance.

Occasionally an herb-doctor would be called to attend a woman in confinement, but, as a rule, no man, whether a physician or not, was expected or allowed near a woman at such a time. Where the Indians were becoming educated and civilized they were gaining more and more confidence in white physicians, and occasionally one would be called to attend a confinement, especially if any complication had arisen. The favorite posture during labor was the kneeling one, the arms, chest and head resting upon a support of some character; but by many the squatting posture was preferred. The ease with which delivery was accomplished in these postures, and the simplicity of the whole procedure, were not without suggestiveness to those of us who were endeavoring to carry out the multitudinous details of modern antiseptic midwifery. The lying-in chamber and the lying-in bed for the tribes which had little contact with civilization did not exist. Delivery took place in the open air, in the bushes, by the side of a stream, perhaps when the tribe was on a march. The regular duties of the squaw were not long interrupted by parturition, and if her party was on the march, she hurried on to overtake them after the birth of her baby.

In some tribes it was the custom to facilitate the expulsion of the placenta by tickling the parturient's nose with a feather, thus provoking sneezing.

Among the Sacs and Foxes the placenta was wrapped in the blanket on which delivery took place, and secured to a tree to keep it from wild animals. Should a wolf or coyote get it and eat it, the child would resemble such an animal and eventually be devoured by it. It must not be thrown into the river lest the child should resemble a fish or be drowned and eaten by fish.

The accidents of parturition were few, ocurring, perhaps, as frequently as in the lower animals. The agency physicians had reported cases of faulty presentation, retention of the placenta, and rupture and procidentia of the uterus. The Indians were just beginning to appreciate the value of skilled assistance for such emergencies. Puerperal diseases were said to be unknown among Indians.

Malignant disease was of rare occurrence, especially among the full-bloods. Cancer of the breast was reported, but not of the uterus. Of course, it was possible that the latter might exist and its existence never be known by any but the patients, owing to their extreme reticence concerning disease of the genital organs. For the same reason it was impossible to say to what extent pelvic disease in general existed among Indian women. Cases were reported in which there were deformity of the uterus, ovarian pain, abdominal dropsy, leucorrhœa and gonorrhœa, so that it could not be said that pelvic disease was unknown among them. It was probable that they were less susceptible as well as less sensitive to such diseases than civilized women. Those who were becoming civilized or were already civilized suffered from pelvic disease to about the same extent as the whites. Venereal disease was said to be very prevalent, and doubtless it had much to do with the feebleness of the children and the high rate of mortality among the infants.

CONCLUSIONS.

1. Puberty : The more fact of living in a savage state had not much to do with the early or late appearance of puberty. The Apaches and Mojaves of the hot and desert regions of Arizona matured young, but so did the females of southern Europe and the tropics generally. The law was general that both animals and plants should mature early under a tropical sun. The females in the northern tribes—the Cheyennes, Arapahoes, Crows, Assiniboines and Sioux—developed more slowly, as was the case with women in northern Europe.

2. Phenomena of menstruation ; Savage life, with its vicissi-

tudes and hardships, did not usually interfere with the regular recurrence of the monthly flow. Influences which would disturb or check it, and possibly produce permanent injury to a woman in civilized life, seemed to have no such effect upon Indian women. Excessive menstruation was practically unknown. On the other hand, there were occasional instances of dysmenorrhœa or amenorrhœa in connection with disease or deformity of the pelvic organs, so that savage life did not necessarily furnish immunity from such experience.

3. The menopause: Indian women were exceptionally free from the nervous and vascular disturbances which so commonly accompanied the menopause in civilized life. The duration of the menopause varied greatly as it dis in civilized life. It usually came between the fortieth and fiftieth years, but not infrequently was delayed far beyond the fiftieth year. Many gestations occurring in rapid succession, continuous hard work, and the exposure and physical suffering incidental to a savage life, did not tend to shorten the menstrual and child-bearing periods.

4. Marriage and sexual appetite: The social condition of Indian women was an anomalous one for this age and country. They must bear the burdens, do the drudgery, bring forth and rear the children, and then, perhaps, be cast aside at the merest whims of their husbands. Marriage among American Indians meant; as a rule, communism, polygamy, unrestrained lust, according to circumstances, all of which must be abandoned as they emerged into civilization, for they were incompatibles. Sexual appetite in Indians was the uncontrolled and uncontrollable desire of the wild beast, or it was an indifference in women cf the degraded and debilitated tribes, except as it was associated with the idea of gain.

5. Conception and gestation: The habits and manner of life in the more vigorous and well-developed Indian women were favorable to fruitfulness in child-bearing. But the facts that so many children died in infancy, and that the restraints of civilized life were fatal to so many more, showed that the race was not a hardy one. The unhygienic condition of the homes in many tribes, with their filth and degradation, and the frightful abuses of the abortionists in others were further tending to weaken the race and impair its future.

6. Parturition: The ease with which parturition was accom-

plished among Indians was an interesting fact. It must not be overlooked that the squatting or kneeling posture which they assumed during labor was more favorable to muscular effort than the postures with which we were familiar in the lying-in chamber. This was a suggestive fact. So also was the apparently total absence of puerperal diseases among Indians This was the result of pure air and plenty of exercise, and not of antiseptics, or even of ordinary hygiene. The quick recovery and return to their usual duties of Indian parturients also suggested the possibility that we sometimes made invalids of our obstetric patients unnecessarily. Accidents occasionally occurred among Indian parturients just as they did among animals. Nature's work was sometimes far from perfect. This meant death to the mother or child or both, unless an intelligence beyond that of the savage could be summoned to avert it.

7. Pelvic disease: That pelvic disease had not been treated among Indians did not prove that it did not exist. Those diseases which resulted from infection, deformity, mal-development, and faults of circulation probably existed, but they went untreated and more or less unheeded until the suffering caused by them became keener and confidence in educated physicians stronger. The malignant diseases of the reproductive organs were almost unknown among Indians. This showed that neither privation, nor hard work, nor exposure, nor giving birth to many children, necessarily resulted in the neoplasms which so afflicted civilized women.

8. Venereal disease: Both local and constitutional forms of venereal disease abounded among Indian wowen. The frequency of syphilis, coupled with the great mortality among infants and the great prevalence of glandular and pulmonary disease among many of those who survived infancy, were evidences of the inroads which venereal disease had made upon Indian vitality.

Finally: Indian women in the savage state underwent less physical suffering in connection with the reproductive apparatus than civilized women. They menstruated, bore children and passed the menopause with the minimum of discomfort as a rule. This was due to three causes: (1) natural or racial insensitiveness compared with the far more sensitive Caucasian; (2) abundance of exercise; (3) life in the open air.

Civilized life, with its complex conditions, would always present obstacles to the performance of the functions peculiar to women with the same ease with which they were performed by savages, and when Indian women exchanged the savage for the civilized state they must necessarily adopt also some of the ills inseparable from the latter.—*N. Y. Medical Journal.*

An Early Demonstration of Cold Bath in Yellow Fever.—Dr. Robert Archer, of Norfolk, relates (*American Medical Recorder*, Vol. 5, 1821) that one of his patients with yellow fever was giving a purgative dose, "he betook himself to a neighboring wharf, to wait until it had ceased operating. During its operation he fell in the river, and with difficulty was snatched from a watery grave by some person passing by at the time. He was taken home and put to bed; a profuse perspiration ensued, his fever left him, and he found himself next day perfectly recovered."

Flannel Bandages in Locomotor Ataxy.—Dr. Leidy, of Philadelphia, has recently directed attention to the utility of a flannel bandage, firmly applied, for the relief of the shooting pains in the limbs associated with spinal disease, particularly locomotor ataxy. The use of such a means of relief was suggested to him by the benefit which he has seen derived from firm bandaging in the painful spasms which occur in the limbs after injury; and now, with six months' experience of the remedy, he recommends it strongly. He found that the firm application of a flannel bandage from the toes up to the middle third of the thigh afforded very great relief to lightning pains. In the same way the application of of a firm abdominal binder gave almost immediate relief to the distressing girdle sensation which is so common. If the bandage or binder were removed from the seat of pain it was found that the abnormal sensations recurred very soon, and Dr. Leidy is inclined to regard this simple artifice as of considerable importanee. The good effects, he believes, result from the warmth of the bandage, combined with the pressure which it produces and the condition of rest which it ensures.—*London Lancet.*

CURRENT NOTES.

American Public Health Association in Kansas City.—There was no representation from the North Carolina Board of Health in the meeting at Kansas City, and all we know of it is from the newspaper reports. Dr. Frederick Montizambert presided, and, judging by the hearty welcome the Association received, they were duly appreciated by the people of that bustling city. Dr. Felix Formento, of New Orleans, was elected President, Dr. Domingo Orvananas, of the City of Mexico, 1st Vice-President; Dr. Walter Wyman, Surgeon-General M. H. S., 2d Vice-President. The old and faithful Treasurer, Dr. J. Berrien Lindsley, and Secretary Irving A. Watson are retained, as of course they will be as long as they are willing to give their time. The next meeting of the Association will be held in the City of Mexico in 1892. We hope to give a fuller account of the Kansas City meeting in another issue.

Immediate Closure of Lacerations of the Cervix.—Dr. C. Kollock, of Cheraw, S. C., read a paper thus entitled before the American Medical Association. The operation for immediate closure of lacerations of the cervix uteri should always be satisfactory on account of the simplicity of the conditions and the ease with which the operation could be performed. There was no need of knife or scissors, for the parts were already prepared, and one had only to put the patient in proper posture and introduce the sutures. Silver wire was to be preferred, and he had seen no reason for believing that the wound would not heal readily and involution of the uterus go on satisfactorily. He narrated three cases, in all of which the tear had been very extensive and the hæmorrhage very profuse. Five silver-wire sutures were used in each case, and when they were removed on the twelfth day the wounds were thoroughly healed. He knew of no reason why the sutures should not hold in such cases quite as well as in the immediate operation for rupture of the perinæum, or in the Cæsarean section. He advocated the immediate operation not only for cases in which the hæmorrhage was profuse, but for all in which the tearing of the vaginal portion was extensive.—*N. Y. Medical Journal.*

To Prevent Cocaine Intoxication, add resorcin. This combination also utilizes the antiseptic, astringent and hæmostatic properties of the latter drug.

The Texas Sanitarian.—This new "Journal of Preventive Medicine and Hygiene," published at Austin, Texas (Vol. I, No. 1), is welcomed to our office. It is well printed, well edited, and has the appearance of a journal intent on a serious mission. J. T. Bennett, M.D., is managing editor.

The Physician's Visiting List.—Messrs. P. Blakiston Son & Co. are first in the field with their visiting list for 1892. This is the forty-first year of this publication. The prices are from $1.00, for 25 patients a day (or week), to $2.00 for 100 patients. This list takes well with the doctors, as its age will signify.

Dr. Koch Improves His Tuberculin.—Dr. Koch has been reviewing lately the career of his tuberculin, and thinks he has made an improvement by ridding the fluid of the deleterious effects complained of by so many clinicians. He makes an admixture of alcohol which he says corrects the former objectionable qualities.

"Three Thousand Questions for Self-Examination in Medicine" Again.—We stated the price of the above good little book at 50 cents, whereas it is *only* 10 *cents*. If there is a medical student in North Carolina who don't keep one in his vest-pocket all the time it will not be because of the price. It is a most useful book, and will advance the student who is honest with himself.

Death of Distinguished Baltimore Physicians.—It is only a few weeks since we received the sad news of the death of Prof. Chris. Johnson, of the University of Maryland, then that of Dr. Edmund R. Walker. In the *Maryland Medical Journal* (Nov. 14) we have the announcement of the death of Dr. Thomas B. Evans and Dr. T. Burton Brune, the former 59, the latter 36 years of age.

The Keely Cure for Drunkenness (*Boston Medical and Surgical Journal*).—Mr. John F. Mines, known as "Felix Oldboy," who recently wrote an article which appeared in the *North American Review* for October, endorsing from personal experience the Keeley bi-chloride of gold "cure" for drunkenness, which article has been extensively noticed in the daily press, was arrested last week and sent to Blackwell's Island, where he died from the effects of alcohol.

[We note by the Greensborough papers that the Keeley cure has broken out there. We give this and an item on another page as our share of an introduction.—Eds.]

Acetanilid vs. Antipyrin, Phenacetin and the Rest of the Anilides.—Our local druggists report a falling off in the use of antipyrin and phenacetin and a steady increase in the use of acetanilid. We trust that all physicians will carefully study the comparative value of these drugs, and if it should prove true, as we believe it is, that acetanilid is as good as any, and better in most cases when fortified by alcohol, in which it is so easily administered, that it will steadily crowd antipyrin (particularly) out of the market. Antipyrin is as much a patent medicine as Indian Blood Pills, or Perry Davis' Pain Killer, and is a merciless tax upon those who take it, costing by the grain, as dispensed, from 1 to 2 cents, while acetanilid, a legitimate chemical costs $1.50 *a pound.* This valuable chemical is being used to-day as the basis of a number of headache cures, etc., etc., under many names, and mixed with just enough of something else to put one off the track about it.

"Dermatol."—Drs. Heinz and Liebrecht, of the Pharmacological Institute of Breslau, bring under notice a substance which they consider will replace iodoform. They call it "Dermatol." It is a basic gallate of bismuth. It is a finely pulverulent substance, saffron-yellow, not hygroscopic, and does not decompose under the influence of light. Very like iodoform in appearance, it has not its nasty odor, and is, indeed, absolutely free from smell. It is a powerful drying antiseptic. It is insoluble in any of the usual menstrua, so its anti-bacterial properties can only be evoked by actual contact and intimate mixture with nourishing media. In its application to the human body, its preëminent desiccating properties cause deterioration of the nutrient supplies available for the bacteria, and thus restrain their growth. This desiccating property influences the healing processes, as in wounds and ulcers, in a very favorable manner. It causes no secondary troubles; it is absolutely non-irritant, and, on account of its insolubility and extraordinary permanence in contradistinction to other bismuth combinations, it is perfectly innocuous. The authors have had experience of it in surgical, gynæcological and dermatological practice. Above all, it is a distinguished healer of wounds. Unlike many "antiseptics," it causes no irritation and does not protract the healing process; it rather allays irritation, diminishes the wound secretions, and promotes granulation. These properties of dermatol were noticed in cases of burns of the higher degrees, of weeping eczemata ulcerations, etc., etc. Trials have also been made of the powder in ophthalmic and aural cases. Moreover, the authors consider it to be useful internally as a substitute for subnitrate of bismuth in gastric affections and diarrhœa combined with catarrhal and ulcerative processes.—*Edinburgh Medical Journal.*

OINTMENT FOR ECZEMA OF THE NIPPLE.—Braun is stated to recommend the following prescription in this condition :

℞.—Calomel........................	45 grs.
Carbonate of magnesia...........	40 "
Cold cream......................	1 ounce.

This ointment is to be applied with friction to the part which is affected. The reddened and sensitive areola which surrounds the excoriation should be anointed night and morning with the glycerole of tannin. All applications should be carefully wiped away before the infant nurses.—*Medical News.*

DRINKING WATER AND ENTERIC FEVER.—Legrain (*Ann. de la Policlin. de Paris,* October, 1891) says that the problem of the origin and propagation of enteric fever is probably solved by the discovery of Eberth's bacillus and by the finding of this micro-organism in the water suspected of conveying the disease. Three theories have been put forward (1) autotyphisation—and the identity of the B. coli communis with Eberth's bacillus lent some strength to this idea—(2) direct contagion, and (3) the presence of the germ in external media, especially in water, and its transmission in that way. This latter is the most generally accepted theory. Brouardel, in 1887, admitted that though the disease could be propagated by water, air, the patient's linen, or the hands of those looking after him, yet in 99 out of 100 cases it was through the medium of water. The author then gives the details of an epidemic occurring in a home for idiots and the weak-minded. After describing the insanitary condition of the river, M. Legrain draws attention to the increasing prevalence of gastro-intestinal affections in the home. Thus among an average of 170 treated yearly, there were 25 such cases in 1887, 57 in 1889, and 84 in 1890, the epidemic taking place from January to May of that year. Two conclusions are drawn (1) that the highest figure representing the gastro-intestinal disorders. The author agrees with Chantemesse that gastric disturbance with fever, apart from simple indigestion, may be abortive enteric fever. Thus the epidemic was the progressive and (at length) momentary aggravation of an evil increasing from day to-day. This is borne out not only by the prevalence of gastro-intestinal catarrh and its steady increase, but also by the sporadic cases of enteric fever in the community and the occurrence of cases of gastric disturbance clearly infective, such, for instance, as happened in one newly arrived and which disappeared with the discontinued use of the water. Occurrences suggesting direct contagion were few. Most attacked had drunk the water straight from the river. Again nine individuals who had also drunk the water were seized with diarrhœa. The river water was the first, if not only, source of the disease. Outside the home there were cases of gastric disturbance with diarrhœa, fever and enlarged spleen. The epidemic lasted long, as if the cause was quasi-permanent. It hardly affected the other part of the institution situated at a little distance from the first named home, for the inmates drank water which had at least been filtered. The more robust boys were mostly attacked because they worked in the fields near the river, and thus the water was directly accessible to them. When the weaker ones suffered, it must have been through the medium of the table water. They would no doubt be less resistant than the stronger.—*Supplement to British Medical Journal.*

MISTAKES OF A PHYSICIAN.—

1. To promise a patient you will cure him.
2. To promise to call at an exact specified time.
3. To promise that the malady will not return.
4. To promise that you can render more efficient service than your fellow practitioner.
5. To promise that your pills are not bitter or that the knife will not hurt.

6. To promise that the chill or fever will not rage so high tomorrow.

7. To allow your patient to dictate methods of treatment or remedies.

8. To allow yourself to be agitated by the criticisms or praises of the patient's friends.

9. To allow yourself to buoy the patient when the case is hopeless.

10. To allow yourself to make a display of your instruments.

11. To allow yourself to experiment or exhibit your skill uncalled for.

12. To allow yourself, by look or action in a consultation, to show that you are displeased, and that if you had been called first matters would have been different.

13. To allow yourself to indulge in intoxicating beverages.

14. To allow yourself to rely wholly upon the subjective symptoms for your diagnosis.

15. To allow yourself to tell the patient you are prescribing saccharum album when you are giving calomel.

16. To allow yourself to give arsenic and quinine when a bread and water placebo will answer.

17. To allow yourself to tell Mr. Smith the weak places and irregularities of habit of Mr. Jones' family.

18. To allow yourself to give your services or an opinion without a reasonable fee or a reasonable expectancy.—*Kansas Medical Journal.*

THE BICHLORIDE OF GOLD CURE FOR THE ALCOHOL HABIT.—The editor of the *New York Medical Journal*, in October 31st issue, says: "The position of Dr. Keely is simply contemptible, unless his 'cure' is fraudulent and he knows it. If he really believes in it he is guilty of conduct so unprincipled—so utterly wanting in appreciation of the duty he owes to mankind—that it is hard to forgive. If he is a swindler, if he is not contemptible, he is positively brilliant in his line. Whatever he is, it is a serious responsibility for any man to assume when he refuses to divulge the methods by which he professes to produce such important results. We are not aware that any particular difficulty in the production of 'bichloride of gold' (whatever that may mean) or of the unknown but apparently necessary 'other substance' is advanced in justification of the secrecy. Dr. Keely's partisans allege that at some unspecified period he distributed an unspecified number of 'barrels' of his remedy among a number of physicians (names and precise number not given). This, if it is true, is no excuse for his present course. Though he had sent a 'barrel' to every doctor in the country, unless the nature of its contents was known or its harmlessness guaranteed by the reputation of the sender, no honest physician could use it. This is equally the case at the present time. In the meantime, the admirers of Dr. Keely should refrain from denouncing the 'prejudice' of medical men. No opportunity has been afforded to submit his pretensions to judgment. The responsibility for this rests with the claimant. If his professions are just, he deliberately excludes from benefit probably a hundred thousand persons for every one now able to obtain treatment. Of course, the discoverer of a cure for drunkenness is worthy of any amount of pecuniary reward, but, if the statement that there are seven hundred people now under treatment by the doctor at $25 a week apiece is correct, the income of $17,500 a week must certainly soon place the recipient in circumstances of comparative ease."—*Medical Age.*

MEDICAL NEWS VISITING LIST FOR 1892.—The senior editor has used the *Medical News Visiting List*, and finds it just the thing for his purposes, and therefore recommends it to the readers of the JOURNAL. The best edition, the one now before us, has a thumb index for rapid reference, is beautifully and substantially bound—the price $1.50.

CARBOLIC ACID IN RHEUMATISM.—Dr. J. L. Hancock writes in the *North American Practitioner* for September, 1891, upon the good effects of carbolic acid locally applied in the treatment of acute articular rheumatism. He uses it in the form of a four per cent. solution applied warm on a piece of flannel wrung out and enveloping the joint. This application is made at night, and allowed to remain until morning. It has given good results in the writer's hands.—*Medical Age.*

MEDICAL PROVERBS.

(Gleaned from the *Medical Age.*)

German Proverbs.

A physician is an angel when employed, but a devil when you must pay him.

Dear physic always does good.

A disobedient patient makes an unfeeling physician.

Spanish Proverbs.

What cures Sancho makes Martha sick.

The earth hides as it takes
The physician's mistakes.

He that sits with his back to a draught, sits with his face to a coffin.

Of the malady a man fears he dies.

He that would be healthy must wear his winter clothes in summer.

English Proverbs.

Diseases are a tax upon our pleasures.

A good surgeon must have an eagle's eye, a lion's heart and a lady's hand.

Tender surgeons make foul wounds.

Miscellaneous.

A physician is a man who pours drugs, of which he knows little, into a body of which he knows less.—*French.*

Do not doubt; you are no doctor.—*Anon.*

Most physicians, as they grow greater in skill, grow less in religion.—*Massinger.*

[The acceptance of this theory arises from a wrong conception of what true religion is. He grows more skeptical of the value of outward forms and ceremonies, supernatural revelations, formulated creeds of belief, natural depravity and unnatural atonements; but he grows yearly more and more worshipful of the one good and great Creator, and his wonderful works in all nature, human, animal, vegetable and inorganic, and more respectful towards love, charity and all manifestations of our advance toward spiritual perfection. It may also be said that almost all men of scientific training and higher culture are tending in the same direction. The peculiar advantages and opportunities of a physician's life only enable him to lead the march.—Ed.]—*Medical Age.*

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The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; *hence the preparation is of great value in the treatment of mental and nervous affections.* From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

NOTICE—CAUTION.

The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, **finds that no two of them are identical,** and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, **in the property of retaining the strychnine in solution,** and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. **Fellows.**"

As a further precaution, it is advisible that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

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NORTH CAROLINA

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ORIGINAL COMMUNICATIONS.

THE MEDICAL TREATMENT OF CYSTITIS.

By Dr. James Tyson.

(Read before the Philadelphia County Medical Society at the Stated Meeting, November 11, 1891, the President, John B. Roberts, M.D., in the Chair.)

The medical treatment of cystitis does not furnish a very satisfactory chapter in therapeutics. It includes such treatment as the physician is called upon to use supposing the exciting cause, such as a stone or obstruction in the urethra, to have been removed, wherever possible. I say when possible, because the enlarged prostate which is responsible for so many cases of cystitis is, in the vast majority of cases, not removable even in these days of brilliant surgical results. It must also include the treatment of a certain number of cases in which no removable cause is ascertain-able, as well as cases where, as with a long previous gonorrhœa, the cause has long since been removed, but has left a deep-rooted tendency scarcely eradicable.

It should be stated, too, at the outset, that the vast majority of cases of so-called cystitis are inflammations of the neck of the bladder and of that part of the urethra passing through the prostate.

Acute cystitis is far less commonly met by the physician than the chronic form, while its treatment is far simpler, and, I may add, more satisfactory, at least so far as the removal of the acute symptoms is concerned. Rest in bed is a primary and essential condition. Leeches to the perineum should be applied more frequently than they are. A poultice to this same region and over the abdominal region is always useful, while a brisk saline cathartic should never be omitted.

As the feverish state which always accompanies cystitis is more or less constantly associated with a scanty urine, concentrated and irritating to the inflamed mucous membrane, it is desirable at once to increase the secretion, and thus dilute it. Copious libations of pure water, to which the citrate or acetate of potassium is added, in 15 to 20 grain doses for an adult, should be allowed. The ordinary spirits of nitric ether in 2 drachm doses every two hours is an admirable adjuvant, and may be combined with the officinal liquor potasii citratis, which contains about 20 grs. of citrate of potassium to the half ounce. Formerly the mucilage of flaxseed or flaxseed tea was much used as a diluent menstruum for the diuretic alkalies indicated, but I am doubtful whether it is any more efficient than a like quantity of water.

Where there is much pain and straining, as is often the case, especially where cantharides is the cause of the inflammation, opium is indispensable, always in the shape of a suppository, half a grain to a grain of the extract being thus administered, or a proportionate amount of morphine. Iced water injections into the rectum, or pieces of ice similarly applied, are very efficient in allaying the pain and irritation where additional measures are needed.

The successful treatment of *chronic cystitis* is a much more difficult task, for three evident reasons : 1. The constant presence in the bladder of the urine with its irritating qualities, especially to an inflamed mucous membrane. 2. The difficulty in getting remedies to reach the inflamed surface; and, 3. The pent-up inflammatory products, which in their decomposition often make the urine still more irritating by exciting in it ammoniacal changes. There is no doubt that, if the urine could be kept from entering the bladder during the existence of an inflammation, the latter would rapidly heal; that cure would be facilitated by obtaining ready escape for the pus and mucus formed in the inflammatory process; while happier results might also be reasonably expected if we could secure readier access for remedies to the inflamed areas. None of these indications can be met entirely, hence the difficulty in attaining a cure. They remain, however, the conditions to be fulfilled, and while none can be thoroughly secured, they may be approximated in various degrees. To do this should be the object of treatment.

First, the irritating qualities of the urine may be diminished by the use of diluents, as already recommended in the treatment of acute cystitis. Almost any of the negative mineral waters, so highly recommended by their owners, are useful for this purpose. Just as good is pure spring water, or even Schuylkill water, and better is distilled water. From one to two quarts should be taken daily. If the kidneys are equal to their office, a large quantity of light-hued urine, of low specific gravity and relatively weak in solids, will be secreted.

When it is proposed to go further and add to the efficiency of diluents, mistakes are often made. While one can scarcely go astray in adding alkalies to the fluid ingested in acute cystitis, it is very different with the chronic form. In this the urine is often alkaline, or ready to become so on the slightest addition of alkali to the blood. Such alkalinity of urine in turn favors decomposition, the effect of which is to convert the pus, if present, into a tenacious, glairy fluid which the bladder cannot evacuate. Notwithstanding this tendency, I have known liquor potassæ and other alkalies to be administered under precisely these conditions—adding fuel to the flame. The indication under these circumstances is to render the urine acid, if possible, although this is very difficult to accomplish. Benzoic acid has the reputation of doing this, and it probably is true of it when administered in very large doses. It may be given in the shape of a 5 grain compressed pill, of which at least six must be given in a day to produce any effect. The same property has been assigned to citric acid, but this is a mistake, as all of the vegetable acids, when ingested, are eliminated as alkaline carbonates.

The second indication is to medicate the inflamed surface. Two ways, of course, suggest themselves: (*a*) by the internal administration of drugs; (*b*) by the injection of medicated liquids into the bladder.

To carry out the first method, an enormous number of infusions, decoctions and fluid extracts of vegetable substances have been suggested, the vast majority of which are absolutely useless, except as they serve by their quantity to act as diluents. Among the best best known of these are buchu, pareira brava, uva ursi and triticum repens. I have never known any beneficial results from any of them, and have long ago ceased to prescribe them.

The only class of remedies I have found of service in cystitis through their internal administration are the balsams. Of these, the balsam copaiba is practically unavailable, because not one stomach in a hundred will submit to its ingestion in sufficient doses or for long enough time to permit it to be of any use. On the other hand, I have found sandal-wood oil very useful, and it is about the only remedy of which I can say this for its direct effect upon the mucous membrane of the bladder. It is also comparatively well borne by the stomach, and is best administered in capsules containing ten minims. I believe it has heretofore been the usual custom to give these and like remedies after meals, but I have recently adopted the method of giving them on an empty stomach before meals. I believe they are as well, and even better, borne than when given after food, and they pass into the blood much more quickly. It is desirable to impregnate the blood and impart to the urine a balsam odor. This is scarcely possible with less than eight capsules a day—two before each meal and two at bedtime. I think I may say that I have found the so-called Santal Medy capsules, which are, I believe, nothing but a very pure sandal-wood oil, better borne than the other specimens of the oil. I have given as many as twelve of these a day for considerable periods of time without deranging the stomach.

Both boric acid and benzoic acid are useful adjuvants to the treatment of chronic cystitis through their antiseptic effect on the urine, each in 5-grain doses rapidly increased to 10. I have used resorcin in 5 to 10-grain doses, and naphthaline in 2-grain doses for the same purpose.

The application of remedies to the bladder by injections can be conveniently considered in connection with the third indication—the getting rid of the products of inflammation, the pus and mucus, and the compounds resulting from their decomposition. The latter are, of course, not always present, but all who have had much experience with cystitis are familiar with the tenacious, glairy mucoid matter, which will not drop or rise up in a pipette, glistening with large crystals of triple phosphate, and exhaling a stinklng ammoniacal odor which quickly contaminates an entire apartment. There is only one way to get rid of this, and that is to wash out the bladder, and too often this is too long deferred. Tepid water should be first used, and the injection made through the soft catheter now so invariably adopted. Sir Henry Thompson is very emphatic in his directions that no more than two ounces should be thrown in at a time, and that this should be allowed to run out, a like quantity again injected and allowed to run out, and this repeated until the water comes out as clear as it enters. In a very large experience in washing out bladders I have never met an instance in which the amount named by Sir Henry may not be doubled with advantage, so that I begin with four ounces. When this quantity is used a much shorter time is necessary to cleanse the bladder thoroughly; and after the capacity of the bladder has been determined I often throw in more, because it is sometimes useful to distend the viscus a little, for in this manner the depressions and inequalities between the muscular trabeculæ, always present in advanced bladder inflammations, are thororoughly reached. These simple injections, practised once a day, or in severe cases twice a day, often result most happily. I have seen the pus reduced from large bulk to a mere trace, and micturition reduced from five or six times to once a night. Commonly, after a few injections with plain water, I add some medication. My favorite is the salicylate of sodium in the proportion of a drachm to the pint. Its disinfecting qualities are undoubted, and I have some reason to believe that the soothing effect claimed for it is not without foundation. I have used a good deal of Sir Henry Thompson's soothing solution—of biborate of sodium an ounce, glycerin two ounces, water two ounces, and of this mixture half an ounce to four ounces of tepid water—with about the same result. Boric acid, in the proportion of a drachm to the pint, is also very satisfactory.

Alum is an astringent which has been too much overlooked of late in supporting processes in mucous membranes, and may be substituted for the salicylate with advantage where the pus does not diminish as rapidly as is desired. It should be more cautiously used than the salicylate of sodium. Sufficient of the powdered alum should be first added to a pint to give it a distinctly astringent taste, when the bladder should be washed out as described, while a small quantity may be allowed to remain after the last injection.

Where there is a foul odor present I use the bichloride of mercury in solution, but exceedingly dilute. It is almost incredible how small a proportion of this salt is irritating to the bladder, and having learned by experience, I never begin with a solution stronger than 1 : 25,000, but gradually increase the strength if it is well borne. Carbolic acid may be substituted for the bichloride of mercury, but it has not been so satisfactory in my hands.

Other drugs are recommended to be similarly used, but I have had little or no experience with them. One from which much may, with reason, be expected is the peroxide of hydrogen, one part to five of water. In the single instance in which I have used this the patient, who had previously been using the bichloride solution, returned of his own accord to the latter, because he thought it more satisfactory. Among other remedies recommended to be used the same way are acetate of lead, 1 gr. to 4 ounces; dilute nitric acid, 1 or 2 minims to the ounce; and nitrate of silver, 1 gr. to 4 ounces; but I have had no experience with them.

Anodynes are indispensable in many cases of cystitis to relieve the patient of extreme pain and the frequent desire to pass water, which are the result of the same cause. Opium and its alkaloids are the most efficient, and they are best introduced by the rectum. There appears to be no absorbing power for opium at least, and there is no use in attempting to use any anodynes by that channel.

Cocaine, from which so much might reasonably be expected, has failed of its purpose in my hands. I have injected as much as two ounces of a 2 per cent. solution into the bladder without effect, except to produce some of the symptoms of cocaine poisoning. Most disappointing, too, has been the use of cocaine to remove the exquisite tenderness of the urethra which sometimes attends this condition, and is a serious drawback to the use of the catheter.

Where there is greatly enlarged prostate, catheterization is indispensable, and is attended often with the most happy results. It is often too long deferred because of the natural repugnance to the use of the instrument. Of course the patient or his friends should be taught to use the catheter and to wash out the bladder. In these days of refined antisepticism it is scarcely necessary to say that the extremest precautions should be taken to cleanse the catheter after its use in order to avoid sepsis. There is nothing better for this purpose than the bichloride solutions 1 : 1,000, in which the catheter should be allowed to lie for a short time after being cleansed with boiling hot water.

How much can be accomplished by such treatment as the above-described? That an absolute and total cure is ever obtained in chronic cystitis is exceedingly doubtful. Hence the statement at the beginning of my paper, that the medical treatment of cystitis does not furnish a very satisfactory chapter in therapeutics. On the other hand, that a life of suffering may be converted into one of comparative comfort is certainly true, and I have many times seen it. Nay, more—I have more than once seen a life prolonged half a dozen years in such comfort by careful attention to the bladder of the kind described.

It occasionally happens, of course, that all treatment of this kind fails, and yet the patient lives to be tortured by the discomfort of the situation. Three times I have had perineal section done by the surgeons for the relief of such cases, in each case with some relief, although with less than was hoped for.

DISCUSSION.

Dr. H. A. Slocum :—I am sorry that Dr. Tyson did not say something about diet—about such articles as tomatoes and asparagus, particularly the latter.

In the local treatment of cystitis I have obtained good results from the use of boracic acid, 2 drachms to a pint of water, used warm. This is introduced with a catheter with a little funnel. I have recently seen described a method of washing out the bladder by means of a catheter introduced into the urethra. To this is attached a tube, and the fluid is allowed to enter by hydrostatic pressure.

I have also used boracic acid internally. This, in 10-grain doses every two hours, has been of more service than anything else that I have tried.

Dr. T. S. K. Morton :—In the treatment of chronic cystitis I have found more satisfaction from the use of salol in conjunction with milk diet. I have the greatest confidence in the administration of salol in doses of from 3 to 5 grains repeated several times daily. The theory is, that in the kidneys salol liberates carbolic acid. While many cases have been benefited by the use of the drug, in other instances it has, like everything else, failed.

I feel convinced, also, that I have had good results from the internal administration of cocaine, owing to its diuretic action. I think that it has some local effect upon the bladder.

A third drug from which I have had good results is sandal wood oil, and the preparation mentioned by Dr. Tyson (Midy) is the best; but it is objectionable on account of the fact that it is largely advertised, and the name of the manufacturer is stamped on the capsules, thus giving to a certain class of patients a clue to their treatment which is an advantage neither to them nor us.

Dr. George E. Shoemaker :—I wish to add a word in regard to the internal administration of boracic acid. I have in the past four years used it in 5 to 8 grains every two hours in plain water or cinnamon water. I have used it with benefit in one case of perineal fistula of long standing in the male. Of course, all medical treatment is subsidiary, but this is the drug which has given me most satisfaction.

Dr. Charles P. Noble :—I have heard no mention of benzoate of ammonia or benzoic acid. I have found these drugs of great advantage in foul alkaline urine. Under some circumstances I have had good results from boracic acid. Rest, a restricted diet, and leaving off meats, have had a good influence. Locally I have used a saturated solution of boracic acid, and rarely have had to reduce the strength of this. I wash out the bladder every second or third day. I have seen good results from triticum repens, particularly in cases where *ardor urinæ* was very marked. Better results can be had by combining it with tinctures of aconite and belladonna, and with bromide of sodium. In summer-time a pleasant remedy is watermelon used freely. This, as is well known, is a powerful diuretic. It gives a bland, unirritating urine, and in a measure avoids the necessity for irrigation.

My experience in the treatment of cystitis has been largely with women. A growing experience makes me the more convinced that cystitis has some local cause, as a rule, which must be sought for and removed. In women a torn perineum, resulting in cystocele, and tubo-ovarian inflammation are the most common causes of cystitis. When these conditions receive appropriate treatment the cystitis disappears.

Dr. Joseph Hoffman :—There is a combination of three drugs which I have used with benefit—these are benzoate of ammonium, salicylate of sodium and bromide of potassium. The last is a local sedative. I think that benzoate of ammonia is perhaps the most efficient of all remedies in chronic, and even in acute, cystitis. The salicylate of sodium is also of value. The mechanical treatment should not be forgotten. It is absolutely impossible to cure acute cystitis with the patient going about. Rest is an important factor in the treatment. It is only by rest in bed that we can secure absence of abdominal tension, which is important.

Dr. Donnally :—In one or two instances in which I have used iodoform in the proportion of 2 grains to the ounce in 4 drachms of mucilage, it acted very efficiently and prevented ammoniacal decomposition.

Dr. Lorgaker :—I have found benzoate of ammonium most effective, but prefer to give it with belladonna rather than with bromide of potassium. Ten grains of the salt, four times a day, is sufficient.

Dr. Mary E. Allen :—In one case where I tried a number of remedies without effect, benefit followed the use of fluid extract of buchu with fluid extract of ————. These were used in conjunction with Buffalo lithia water and a diet consisting principally of milk and vegetables.

Dr. Tyson :—I have had no experience with asparagus as a therapeutic measure in cystitis. Boric acid and benzoic acid I quite forgot to mention in the paper, which was prepared hurriedly. I have used them both freely. Benzoic acid has the disadvantage of affecting the stomach unpleasantly. I have not used benzoate of ammonium, but shall take the first opportunity to give it a trial. I cannot say that I have seen any curative results from boric acid or benzoic acid. They affect the urine favorably. I have also used salol, but have found it very uncertain. In one case where the disagreeable odor of the urine was complained of, I gave salol in large doses without any effect.

APPENDICITIS.

By Joseph Price, M.D.

(Read before the Philadelphia County Medical Society, at a Special Meeting, September 28, 1891, the President, John B. Roberts, M.D., in the Chair.)

The first case I report from memory. It occurred in Ohio eleven months ago.

Case 1.—A physician telegraphed me that he had a case of appendicitis of two weeks standing and asked me to come at once. I wired him that I would return by way of his city in five days. He permitted the man to remain quietly in bed. I saw him at the end of the twenty-first day, leaking, with a rapid feeble pulse, and, I think, a subnormal temperature. The patient was 27 years old, and previously had been a vigorous man. The abdomen was greatly distended, and there was marked fluctuation on both sides below the umbilicus. There seemed to be a perfect inflammatory diaphragm at that point. He was placed on the table and a lateral incision made and two gallons of muddy, pussy fluid escaped. The irrigator, twelve inches long, passed its full length, extending to the left iliac fossa. Two pitchers of water were used and two large gauze drains with a glass tube between them were used. No stitches were used. The patient was put in bed and made a rapid recovery.

Case 2.—Mrs. L., aged 32 years; married eleven years; no children; no miscarriage; patient of Dr. John T. Hampton. Appendicitis with perforating ulcer of cæcum; multiple pus-pockets; extensive adhesions to omentum, large and small bowel. Appendix removed. Perforating ulcer of cæcum freshened as in vesico-vaginal fistula and closed Stump of appendix inverted. Irrigation and drainage, with speedy recovery. This patient had suffered recurring attacks, was greatly emaciated, feeble pulse and slight elevation of temperature. She has gained over thirty pounds since the section.

Case 3.—Mr. H., aged 42 years. Operation May 5, 1891. Section for appendicitis. Pint of foul pus, fecal in odor; omentum and adherent loop ilium; irrigation, two tubes used in drainage; gauze drains. Discharged May 29, 1821.

Case 4.—Mrs. N., aged 25 years. Eleven weeks since confinement. Operation July 4, 1891. Appendicitis of eleven weeks' standing. Appendix removed. Adhesions to cæcum, bladder and uterine walls all freed. Irrigation and drainage. Patient discharged August 6, 1891.

Case 5.—Mrs. S., aged 30 years; married eight years. Painful, irregular and profuse menstrual history; confined to her bed for the past fifteen months. Appendicitis, double pyo-salpinx. Operation July 6, 1891. Removal of appendages and vermiform appendix; cyst of left ovary size of orange; universal adhesions separated; bowel stitched; six inches of ileum coiled and firmly adherent to uterus, bladder and sigmoid. Left tube discharging through ileum; copious irrigation; glass and gauze drains. Discharged August 6, 1891.

Case 6.—Miss W., aged 28 years. Year previous had nephritis and cystitis; later had severe pain in right and left ovarian regions, paroxysms becoming more severe and frequent; pain at micturition and stool; catamenia gradually of shorter duration; loss of appetite and insomnia. Operation August 20, 1891. Appendicitis and double pyo-salpinx; cyst of left ovary size of hen's egg; cyst of right ovary size of orange; adhesions universal. Appendix distended by concretions and two drachms of fluid, firmly adherent to ilium. Clean removal of appendix and uterine appendages; irrigation and drainage. Discharged September 19, 1891.

Case 7.—C. V., aged 30 years; married eight years; seven children; Polander by birth; resident Luzerne county, Pennsylvania Last confinement, January, 1891. Acute mania, no assignable cause, probably puerperal. Indications of abdominal trouble for some time; went to bed July 23d with pain, tenderness in right iliac region; tympanitis. Section August 14, 1891. Multiple pus sacs and extensive adhesions—omentum, ilium, bladder and uterus; the pus pockets extended from cæcum to bladder. Appendix completely disorganized and floating in a puddle of pus; freeing of all adhesions; irrigation and drainage; stump of appendix inverted; stitching of ilium and cæcum at disorganized points. She did fairly well for five days; died the sixth day. Post-mortem—"Intestine in neighborhood of operation quite gaagrenous; a general peritonitis. A large quantity of fœtid pus in enlarged right inguinal canal, also in pocket between bladder and uterus."

Nomenclature.—The old terms were arrived at by examining old, neglected cases, often post-mortem. Recently but one term—appendicitis—is used before laparotomy, before post-mortem, because those two performances prove that so far as the gravity, intensity and extent of the disease are concerned, the symptoms are unreliable, inadequate; further, abdominal sections and post-mortems have determined what the treatment should be—that is, surgical under a surgeon from its inception; hence the name indicating and impressing the nature of the disease and the character of the treatment—that is, appendicitis surgicalis. Idiopathic peritonitis indicates nothing—is an empty term.

The terms typhilitis, perityphilitis, paratyphilitis, extra-peritoneal abscess of the right iliac fossa, are useless except to indicate a secondary or late process originating, without exception, in inflammation of the vermiform appendix.

Symptoms.—The most constant and valuable signs are :

1. History of sudden onset.

2. The point of greatest sensitiveness to pressure, exactly localized over the base of the appendix.

3. Fever as indicated by the thermometer varies, usually low.

4. Rigidity of right abdominal muscles, constant.

5. Constipation.

6. Œdema, overlying a deep abscess in the right iliac fossa in neglected cases.

7. Shock, more or less profound, usually occurs where perforation happens early and suddenly; it is followed by chill, vomit, etc.

There are no special signs of perforation if it takes place late, aftef adhesions have formed. If perforation occurs late and the adhesions are imperfect, we find shock.

The symptoms should be studied most carefully at the end of the first twenty-four hours.

8. Pain is misleading; often referred to epigastrium alone; to umbilical region sometimes; it is often slight.

9. Tympanitis is variable, it depends on state of the bowels; it indicates intestinal paresis—if it comes on rapidly it is unfavorable; it is often the result of opium.

10. Percussion not necessarily dull; there may be a tympanitic note from gas in overlying intestine.

11. Over-extension of right thigh gives pain.

12. Cough is avoided.

13. Tumor inconstant the first two days.

14. Pulse indicates severity and increase; it shows constitutional disturbance.

15. Chill and vomit inconstantly accompany the initial pain.

16. A prodromal stage of abdominal discomfort (about a week) is frequent.

17. Flexion of hip-joint not marked except in neglected cases.

The symptoms are not commensurate with the gravity—intensity fatality of the disease.

Diagnosis.—Early diagnosis is of the greatest importance in in reference to treatment and result.

1. Find with tip of finger—using firm pressure—point of sensitiveness (exact point of greatest sensitiveness); it will be in an adult one and a half to two inches inside the right anterior superior spinous process of the ilium, on a line drawn from that process to the umbilicus—in children, according to size—less distant from the spine of the ilium. (McBurney, confirmed by Weir and others.)

2. Rectal examination is of no value early.

3. Difficult to diagnose in the first twenty-four hours, because few symptoms present.

4. Subjective pain is of little or no value.

5. Constitutional symptoms are far inferior to local signs in forming an accurate diagnosis.

6. Have patient cough.

7. The hypodermic needle should never be used as an aid to diagnosis.

8. Medical men (physicians) no longer diagnose these cases—in the start—as simple obstruction of the bowel.

9. Diagnosis by exclusion is the only safe method.

10. The important points—after the disease has been pronounced appendicitis—is to diagnose it as an operative or a non-operative case.

Points in deciding operative or non-operative character of the case.—1. Do not operate on the first day—usually—because the number of mild cases is undoubtedly large. One operator (McBurney) saw 13 cases, in one year, too mild for operation.

2. If nausea disappears in twelve hours; if tenderness on pressure is not increased in twelve hours; if temperature normal, or not

above 100° in the mouth; if pulse normal or but little accelerated; if patient moves in bed with ease—recovery without operation probable.

Prognosis.—No positive prognosis can usually be given in the first twelve hours. If wait for "strong evidence" of perforation, abscess, general peritonitis, rapid, weak pulse, anxious respiration, distension of abdomen, though the operation is made, the patient will not recover.

Surgery has sometimes been succeessful even where there has been—

(*a*) General suppurative peritonitis.
(*b*) Septic paresis of the intestines.
(*c*) Multiple abscesses in the peritoneal cavity.

Such cases as these usually die—are hopeless.

Where there is no exhaustion, no general sepsis, no debility from long abstinence from food, no prolonged vomiting, the prognosis is good.

It is a serious, often a difficult, operation.

"Abscess, wherever it is, and however well it may appear to be surrounded by protecting plastic deposits, is a constant menace to life, as evidenced abundantly by its spontaneous opening into the abdominal cavity, the venous canals, the bladder and the chest cavity, as well as externally and into the intestinal canal."—*Prof. Bridge.*

Pus will form whether there be perforations or none: 145 autopsies had pus (Matterstock); 125 autopsies showed pus (Fenwick, quoted by Keen); 100 autopsies had pus (Weir, quoted by Keen).

Sepsis is hopeless for medicine, nearly hopeless for surgery.

Sepsis begins before the end of the third day as a rule.

Death from sepsis on the third, fourth or fifth day is the rule.

The prognosis as to day of death, without operation, in perforative cases is, one-third die between the second and fifth day.

Proof of 176 cases: 8 cases died on second day; 28 cases died in first three days; 46 cases died in first four days; 60 cases died in first five days.—*Fitz.*

Experience shows no danger existing of infecting the healthy peritoneum in the course of an operation on the appendix.

Essentials of operative success external to the patient.—For success the operation requires certain conditions external to the patient, namely: 1. General surgical skill. 2. Good assistants.

Time of operation.—"No cases in surgery, saving, perhaps, hemorrhage from large wounded vessels, require more prompt interference" (surgical).—*Keen.*

But one out of 23 early laparotomies died.—*McBurney.*

"By waiting till the seventh, eighth or ninth day to operate, a majority only, all more or less dilapidated, will have passed many dangers; not a few will be waiting the knife that they may start on the road to recovery."

Operate early (before sepsis begins), so the operation may not be an autopsy (says one of wide experience).

Not on the first day generally. At the end of thirty-six hours, if a tumor has formed; if symptoms indicate increase in severity or extent of the disease. Before thirty-six hours, if sudden perforation.

If collapse or shock should be very profound, there may be need to stimulate and wait for reaction before operating.

Statistics of time of early operations: 24 cases (early laparotomies), 6 done on second day; 14 done on third eay; 2 done on fourth day; 2 done at the end of one week. Result, 23 recoveries, 1 death.—*McBurney.*

Definition of early operation.—"By early laparotomy is meant operation before the pathological process has reached an advanced stage. It is not measured by time; it is before (1) general septic peritonitis has begun; (2) before pus has flowed freely into the pelvis; (3) before complete septic paresis of intestine has set in."

An early operation is done at a time when the removal of an actually diseased appendix is capable of putting an end at once to an active disease, which has already become clearly defined and which threatens life.

Origin of early operation.—"The early stage operation, or the operation for recurrence, if not of exclusively American origin, has been developed and established by American experience," is true.

Kinds of incisions.—A choice is to be made as to the kind of incision—that is, between 1, a free opening into the general peritoneal cavity, and 2, an opening limited to evacuation of the contents of an abscess without exposure of the peritoneum.

When to use the different kinds of incisions.—The free opening into the general peritoneal cavity is used, 1, in quiescent state after recurrent attacks; 2, in early stage of progressive attacks, with or without abscess or general peritonitis; 3, in later stage, when abscess has formed in one of the rarer positions and is not adherent to anterior abdominal wall.

The "limited opening" is done in later stage of affection for simple evacuation.

Sites for incision.—There is a choice of site for free incision, as follows: 1, median line below umbilicus (Gerster); 2, outer margin of right rectus muscle below level of umbilicus—(Sands.)

There are several places at which the "limited incision" may be made: they are, 1, parallel to Poupart's ligament, about one inch above it, to above and beyond anterior spine of the ilium (Willard Parker's oblique incision); 2, through floor of iliac fossa; 3, through rectum.

When the different sites are to be chosen.—The median line is chosen as the site for the incision in cases of doubtful diagnosis for special indications. The lateral incision is generally chosen for early operations. The oblique incision is made for well-developed abscesses, mainly adherent to the anterior abdominal wall.—*Réclus.*

Advantages of the different incisions.—The lateral incision is preferred, because, 1, it lies directly over the root of the appendix; 2, it exposes the field of operation more favorably than the median; 3, it creates a shorter, a less exposed line of drainage.

The advantages of the median incision are, 1, greater probability of not encountering adhesions between the anterior wall and the intestines, in the line of incision; 2, easier access to all parts of the peritoneal cavity for washing and for drainage.

Instruments—Of the instruments to be used they are but those needed in other major operations.

Adhesions, limiting.—Adhesions make appendicitis a local, circumscribed disease; make it an intra-peritoneal disease generally, always. When they are absent a diffused mischief is the consequence.

Adhesions prevent resolution.—They are left by an attack that apparently ends in recovery, render resolution an absurd term.

Adhesions cripple organs or parts.—They may bind appendicitis to, 1, parietal peritoneum; 2, omentum; 3, intestines; 4, vessels; 5, itself; 6, in short, to any or all surrounding structures.

Adhesions cause new trouble.—When slightly provoked they set up new trouble.

Adhesions cause strangulation.—They lead to strangulation of omentum, bowel, etc.

Adhesions, frequency of.—Thirty-five per cent. of all post-mortem examinations made show them.—*Toft.*

Of 26 cases 6 had no adhesions, 6 had slight adhesions, 6 had marked adhesions—that is to say, 76 12-13 per cent. of the 26 cases had slight, medium and marked adhesions.—*Weir.*

Adhesions, treatment of—Free adhesions by finger.

Treatment, by whom.—The physician shares responsibility with the surgeon as early as possible. From the inception of the disease, through the operation to the end, the surgeon and physician should not be separated; they should see the case together.

Treatment, washing.—It has been asserted that hot water is, 1, not stimulating; 2, not cleansing in irrigation; 3, its use soon followed by depression, marked; 4, its contact with the peritoneum injurious; 5, that sponging is more quickly done than irrigation; that it being impossible to cleanse hands with soap, water, brush, "rinsing (irrigation) is ridiculous," the above statements are false.

Treatment where pus is found.—If pus is found, open pockets, wash out abscess cavities, seek appendix, cut it off, cover with or by Lembert's sutures through the outer layer of cæcum, pack space between incision and abscess with gauze and iodoform, drain by rubber tube or rubber and glass; partly close wound, withdraw packing from between intestines on first or second day; withdraw tube and remainder of packing when circumstances indicate.

Treatment, counter-drain.—Counter opening for drainage in flank, above crest of ilium, or through rectum, or where a sinus.

If little trouble found.—The removal of a but slightly diseased appendix cuts off the possibility of a recurrence, is a good thing.

Where nothing found, i. e., an exploratory operation.—"Exploratory operations will result in fewer deaths by far than the expectant delay which has heretofore been the general rule."—*Keen.*

Exploratory operation "carries with it less danger than the disease;" it has but few risks.

Treatment of stump.—To sear mucosa of stump with pure cabolic acid or Paquelin's cautery is lowering an already devitalized part.

To ligate appendix, invaginate stump, suture after Lembert, is the good way.

Site of origin.—The disease originates in the appendix.—*McBurney and McMurtry.*

Seat of perforation.—The point of perforation is usually at the free end of the appendix; sometimes the whole part is amputated.

Perforations, frequency of.—Of 146 cases (Matterstock), 132 cases (60 per cent.) had perforations; of 129 cases (Fernwick), 113 cases (86 per cent.) had perforations; of 100 cases (Weir), 34 had perforations; 200 per cent. of Kümmel's cases had perforations.

Causes of appendicitis.—The causes of appendicitis are: 1. Irrigating substance, as foods, concretions, foreign bodies. 2. Congenital stricture, occasionally. 3. Strictures at the proximal end, due to ulcerations.

Concretions, fecal, frequency, etc.—Of 146 cases (Matterstock), 63 had fecal concretions; of 8 cases (Stimson), 1 had fecal concretion.

Size of foreign bodies that may enter Gerlach's valve.—Foreign bodies must be small to pass Gerlach's valve and enter the appendix, thus: A cherry-pip may pass with difficulty; a plum-stone may not enter. And autopsies teach surgery.

Multiple pus cavities.—That there are frequently multiple pus cavities, proof: One case (Mi-ku-licz) had 6 pus pockets, opened by three incisions; another of his cases had 3 pockets which were opened by incisions.

Ileo-cœcal abscesses.—They also show ileo-cæcal abscess, proof: Of 106 cases (Krafft), 84 had autopsies, 84 had ileo-cæcal abscesses.

Points at which cysts or abscesses of appendix may empty.—They prove that the abscesses or cysts do and may empty (*a*) into the abdominal cavity (*b*) into cæcum through Gerlach's valve (*c*) into rectum, (*d*) through Pettit's triangle; (*e*) above Poupart's ligament; (*f*) into ischio-rectal fossa; (*g*) into a coil of intestine; (*h*) through crural ring; (*i*) into a venous canal; (*j*) into œsophagus; (*k*) into lung.

Progress of appendicitis.—They (laparotomies and autopsies) show three distinct panoramas of progress in the disease.

Picture 1 *of progress.*—(*a*) Irritating substance, catarrh of cæcum, or appendix, or both, dilatation of appendix primarily or following dilatation of cæcum, contents of bowel enter appendix, fluids are absorbed, solids are left, concretions are formed, and act as mechanical causes for inflammation, ulceration, upon which follows amelioration, or relapse, perforation, sepsis more or less extensive, operation or death

Picture 2 *of progress.*—(*b*) Irritation, catarrh of cæcum or appendix, or both, gangrene, obliteration or ulceration, stricture of proximal end during healing of ulcers, distal end patulous, retention sac or cyst forms, which inflames, which empties into cæcum rectum backward, peritoneal cavity, etc.; peritonitis arises, adhesive or local, or universal, quiescent, recurrence, connective tissue becomes involved, omentum, intestines, etc., fixed by adhesions, and possible strangulation of omentum, intestine, etc ; knife ligature, irrigation drain, must be used or death occurs.

Picture 3 *of progress.*—(*c*) Foreign body; pressure, atrophy, necrosis of epithelium, ulceration, perforation, etc ; knife and its associates, or death.

Kinds or classes of appendicitis.—The post-mortem, the section show variations in the late or secondary process of appendiceal inflammation, which have been classified variously.

Professor With subdivides the disease as follows : 1. Peritonitis appendicitis adhesion. 2. Peritonitis appendicitis localis. 3. Peritonitis universalis; his classification has been largely endorsed, and is recognized under slightly changed names.

Bull distinguishes between : 1. Catarrhal perityphlitis and 2, suppurative perityphlitis.

Miknlicz classifies it as, 1, diffuse septic peritonitis; 2, progressive fibro-purulent peritonitis.

Keen makes five classes, according to progress : 1. Mild form, without perforation, usually no abscesses. 2. Perforative (*a*) severe, early, fulminant; (*b*) mild early, suddenly bursts, etc. 3. Perforative, with comfortable abscess, rupturing into hollow viscus, or operated upon. 4. Abscess forming slowly, chronic weeks, months, years. 5. Recurring.

The sum of all is (McBurney's) operative, non-operative appendicitis.

Previous attacks.—Of 106 cases (Krafft), 24 had previous attacks in 1 to 20 years; 23 per cent. had previous attacks.

Number of attacks.—One case (McBurney) had 12 attacks in one year. One case (Treves) had 14 attacks.

Frequency of the disease.—Thirty-five per cent. of all post-mortems show residua of appendicitis; 36 per cent.—over one-third—of 300 autopsies done at random, revealed diseased appendix (Toft). One case of perityphlitis to 100 of appendicitis (McBurney). Assume that one-third or more of all adults have one or more attacks.—*Keen.*

Sex most frequentlg attacked.—Of 14 cases (Mynter), 1 was a woman; of 24 cases (McBurney), 21 were males, 3 females.

Age at which it most frequently occurs.—Of 72 cases (Matterstock), 2 were under two years; 10 were between two and five years; 25 were between five and ten years; 35 were between ten and fifteen years. Of 228 cases (Fitz), 173 cases were below thirty-one years; 207 cases were under forty-one years. Of 24 cases (McBurney), 14 were under thirty-six years. Of 14 cases (Mynter), 1 was under twelve years; hence it is a disease of early life.

Results.—The operation can be done by different individuals under varying conditions, with something like uniform success; proof, the work of Sands, Stimson, Weir, Bull, Senn, Morton, Treves, Hartley, Mynter, Dalton, McBurney.

Medical and conservative mortality.—Mortality under conservative treatment is large—larger than statistics can prove—for in many fatal cases the origin is unsuspected. Proof : Fitz puts it at 26 per cent.; Stimson puts it at 25 per cent. Of 72 cases, 74 per cent. recovered (Fitz). Of the 72 cases about 36 were treated medically, and 11 per cent. died, and 14 per cent. spontaneously evacuated the pus late (Fitz). In medical cases the mortality is now 44 per cent.

Mortality from early laparotomy.—Of 24 cases of early laparotomy (McBurney), 23 recovered, 1 died. Of 35 cases of early operation (Weir), 34 recovered, 1 died.

Mortality from delay.—For one operation done by mistake ten deaths can be shown from waiting for signs of tumor or peritonitis.

Acute mischief after quiescence.—Of 30 cases of acute perforative appendicitis where recurrence was noticed, 22 cases exploded into abscesses or general peritonitis before the third attack; one case so exploded after the fifth attack.

Value of medical treatment.—Medical treatment, i. e., rest and intelligent nursing—is of two-fold value, first, in limiting the extent; 2d, in shortening the duration of mild attacks.

Items of interest.—Avoid deep epigastric artery and vein in making lateral incision.

A point in identification.—The anterior bundle of unstripped muscles on the colon, which terminates at the base of the cæcum, is in sight: it is a good guide to the appendix.

Abnormalities.—Anatomical relations of the appendix are sometimes abnormal; it was once found to left of median line, above umbilicus, with a short mesocolon.

What is recovery without operation?—Recovery without operation means relief from recurrent pain, and thereafter an improved condition of health for a longer or shorter time.— *Weir.*

Definition of obliteration of appendix.—Obliteration of the appendix is narrowing of the appendix, which often follows catarrh of the part.

Percentage of obliteration of appendix.—Of 26 cases, 10 gave obliteration.

Why arrays of statistics.—The object of bringing statistics, percentages of recoveries, etc., before physicians, is that they may realize the importance of prompt operation.— *Vander Veer.*

Where Pettit's triangle.—Pettit's triangle is between the latissimus dorsi and the external oblique muscle.

Period of activity in literature of appendicitis.— Much has been written on appendicitis in the last twelve years—1879 to 1891.

Period of active work in appendicitis.—Much work in appendicitic trouble has been done in the last two years—1889 to 1891.

Literature.—Buffalo Medical Journal, 1879; Transactions of American Surgical Association; Volkmann's Klin. Vorbräge, January, 1889; Annals of Surgery, October, 1889; New York Medical Journal, October 25, 1890; Transactions of Medical Society of the State of New York, 1891; Transactions of American Physician, 1886; Medical and Surgical Reporter, February, 1886; Medical News, March 1, 1890; Lancet, 1889.

Some of those to whom this article is indebted, and who have largely contributed to the biography of appendicitis, are the following: Drs. Abbe, Buck, Bull, Dalton, Ebebohls, Fenwick, Fowler, Fitz, Gerster, Hartley, Hektoen, Holgh, Hadra, Holmes, Krafft, W. W. Keen, Lange, Morton, McBurney, McMurtry, Mikulicz, Mynter, Matterstock, Mackenzie, Murray, Monks, Porter, Parker, Regnier, Réclus, Roux, Senn, Stimson, Lewis Smith, Sands, Greig Smith, Teale, Tait, Toft, Treves, Vander Veer, With, Weir, Wyeth.

SELECTED PAPERS.

THE THERAPEUTICAL VALUE OF TURPENTINE.

By Charles W. Chapman, M.D., M.R.C.P., London.

There have appeared from time to time in *The Lancet* important communications recalling attention to the value of some drug or therapeutical measure which had apparently fallen into disuse. Many practitioners are doubtless bewildered by the innumerable announcements of new remedies with which they are persistently assailed. Under these circumstances it is well to turn a deaf ear for a while to the importunities of the enterprising manufacturers of therapeutical novelties or wonderful combinations of drugs, and to look back at "the old remedies out of fashion." This can be done without prejudice to real advance in our art. Turpentine, as far as my observation goes, is a remedy which is wellnigh forgotten. I refer especially to the hæmostatic property of the drug. My attention was first called to the value of turpentine by Dr. Wilks when I was a student at Guy's, and I have frequently seen very satisfactory results follow its use in my own practice.

In 1873 I had a rapidly advancing case of purpura in a man twenty-five years of age, where hæmorrhage from the bowel was the symptom for which I was consulted. Never having previously seen a similar case, I at first failed to recognize the disease. I gave a saline purge, and followed with lead and opium (examination of the rectum having given no evidence of local trouble), but to no purpose. Before long there was severe bleeding from all the mucous surfaces, and this, with the appearance of petechiæ on the general cutaneous surface, cleared up any doubt as to the nature and gravity of the complaint. Gallic and tannic acids proving of no more value than the preceding treatment, turpentine in twenty-minim doses every two hours was prescribed. The effect of the remedy was prompt and marvellous, the bleeding diminishing in a few hours and stopping entirely in three days. I saw this gentleman quite recently; he is in good health, and has never had a recurrence of this mysterious disease.

In the treatment of bleeding from uterine fibroids turpentine has with me been of great value, this drug frequently having succeeded when ergot, from lengthened use, appeared to have lost its effect, or the patient wearied with having taken it so long. In 1881, F. H——, widow, thirty-eight years of age, came under my care for excessive menstrual loss. The intervals of freedom from bleeding had been gradually getting less, and she was terribly anæmic in consequence Physical examination revealed the presence of a large intra-uterine fibroid. Though the subcutaneous injection of ergotine was occasionally resorted to, the great beneficial effect upon the bleeding. This patient was not allowed to submit herself to operative interference, though this was urged upon her; she has outlived her fibroid, and is now in the enjoyment of thorough good health.

In hæmoptysis, especially where there was much prostration, I have had reason to be satisfied with the hæmostatic and gently stimulating properties of the drug in question. Dr. Sydney Ringer, in the 1871 edition of his "Handbook of Therapeutics" (p. 273), remarks of turpentine that "it is very efficacious in bleeding from the lungs, nose, uterus, kidneys and bladder." Yelk of egg and mist. tragacanth comp. are convenient vehicles for the drug, and when the patient does not object to it, I have found peppermint a useful flavoring. Turpentine has many uses beyond those here indicated, but my object was rather to revive an interest in this remedy than to fully discuss its uses I may mention I have never seen severe bladder symptoms follow the exhibition of turpentine. If painful micturition happened to supervene, cessation from the use of the drug for a short time was all that was required.—*Lancet.*

TARTAR EMETIC AS A REMEDY FOR INTESTINAL CATARRH.

By L. Grey Thompson, M.D., Aberd.

Chills or indigestible food probably cause the following (four) varieties of the same disorder:

1. An offensive diarrhœa of dark matter, accompanied by tenesmus and traveling pains in the pelvis. Raised temperature. Great

depression, with frontal and occipital headache. Nausea and vomiting. Tongue silvered and scarlet-edged.

2. A purging of dark matter in early morning. Tenesmus. Scoring of anus, and cramps in the thick muscles. Raised temperature. Great depression. Flushing of face and frontal headache. Nausea and retching. Tongue and lips deficient in secretion. Edges of tongue moist, and flesh tint heavy in value.

3. Watery, grey dejections, which are inclined to leak through the sphincter, and are worse after midnight. Temperature normal Great depression. No pains or aches. Deficient buccal secretions. Volvulus.

4. Sickening, offensive, curdy, watery diarrhœa; always worse after midnight. Temperature raised Great depression. Alternate flushing and pallor of face. A common ailment of infants.

Treatment.—Commence with a purgative dose of calomel. Secure rest and warmth. Cut off all stimulating foods, and give milk with dextrose and dextrine. One minim of the antimonial wine or 1-240 of a grain or tartarated antimony given each hour will soon restore the secretions; the mouth becomes moist, nausea disappears, appetite returns, the discharges cease to be offensive and become more consistent. One-quarter or one-half minim will be ample for an infant.—*Lancet.*

ANTIFEBRIN BY BROKEN DOSES.

Dr. M. A. Favrat reports (*Inaug. Disser.*) on the use of antifebrin in broken doses at the Medical Clinic at Berne. He is opposed to the doctrine of the curative effect of fever, of which there are no positive proofs. The whole doctrine is based upon bacteriological researches on the influence of elevated temperature on bacteria-cultures. It has found one support in the lack of success had with the modern antipyretics, which have brought discredit upon medicinal antipyresis. But these failures are positively referable, for the greater part, to the fact that the antipyretics are placed into the practitioner's hands without sufficient knowledge of their modes of action, their accessory effects and their drawbacks. A conscientious investigation—the author continues—must determine to what extent the drawbacks of individual antipyretics can be eliminated by different methods of employment. How variously the action of antipyretics manifests itself, is shown in the case of thalline, which, in large doses, is an entirely worthless medicament, while in repeated small doses it is one of the best antipyretics we possess.

Dr. Favrat asserts that it is a universally valid rule to administer antipyretics which act rapidly, in fractional doses—those slow in action, as quinine, for instance; on the other hand, in large single doses. This it was which induced Prof. Sahli to employ antifebrin—a prompt and reliable remedy, but one which under certain circumstances manifests strong drawbacks—in small, frequently repeated doses, instead of the customary large single doses.

The experiments made at the Berne Clinic on eleven patients (eight with typhoid fever, and three with phthisis), with 1,090 doses of antifebrin, have shown that "continual anti-febrinization," as the administration of antifebrin in small frequently repeated doses is called, is an agreeable and mild method of antipyresis, possessing material advantages over the modes of employment hitherto in vogue. It was demonstrated that 0.05–0.1 gramme [¾-1½ grains] doses of antifebrin, repeated hourly, completely suffice to materially depress the fever in both the acute period and the defervescent stage of typhoid fever. On the other hand, the action of the small doses administered at intervals of two hours, is not sufficient to effect a decided depression of temperature in the acute stage; but in the defervescent stage it may suffice. True it is that the fever cannot be entirely dispelled by these small doses; but it is moderated, and the patient obtains relief, subjectively.

The hectic fever of consumptives can also be successfully combated and relief be afforded to the patient by repeated doses of antifebrin. The remedy acts better the higher the temperature In consumptives a dose of 0 05–0.1 gramme [¾–1½ grains] often suffices to reduce the temperature more than 2° C. [3.6 F.] within two hours.

In two cases chills, slight cyanosis and perspiration (several times) survened from this medication; however, these symptoms were far less pronounced than is the case with the customary large doses. There is no danger connected with these small doses, because it is within our power at any time to discontinue the antifebrin upon the slightest appearance of untoward accessory symptoms.—*Merck's Bulletin.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

Thomas F. Wood, M. D., Wilmington, N. C., } Editors.
Geo. Gillett Thomas, M. D., " }

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* The Carolinas. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* Journal, *by sending the address to this Office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* Thomas F. Wood, M.D., *P. O. Drawer* 791, *Wilmington, N. C.*

THE COMPLETION OF THE FOURTEENTH YEAR—THE COSMOPOLITAN AND THE STATE MEDICAL JOURNALS, AND OTHER MATTERS APPROPRIATE TO THE DYING YEAR.

The fourteenth year of the North Carolina Medical Journal is completed with this number. Few medical journals in the South have had a continuous management for so long a time, and none have had more difficulties to overcome. The reader who sits down to a cosmopolitan medical journal with its overloaded pages, beautifully printed, prompt in its issues, enjoys this privilege and luxury because of the very large subscription list and advertising patronage, only possible to the journals published in the densely populated regions of the North and West. These worthy contemporaries have their place in the medical world, and they perform their mission with a zeal and with such merit as not only to add reputation to the editors and publishers, but to American medicine. As broad as their field is, they have never reached the masses of the profession of the more sparsely settled regions in the South, nor have they been able to propagate the medical reforms needed in different States in a way that would shape legislation or give form to public opinion. *Per contra* it has been very remarkable that in three States where medical journals of the highest literary-scientific order are published—Pennsylvania, Massachusetts and New York—the State laws regulating medical education are of the most primitive and ineffectual kind—in Massachusetts as good as no law. Illinois, with its goodly array of medical journals, relegated the conflict for medical education to its State Board of Health under the admirable leadership of RAUCH. So that whatever has been the province of the metropolitan journals, they have never been able to do what a State medical journal could do with a united profession at its back, in solving the problems incident to a higher development of education. Another remarkable thing to notice, that at the very centres of medical education in the cities where our young men thronged to be taught, little could be done in determining a standard of qualifications which all recognized as being just and proper.

The movement for the establishment of educational qualifications had its origin and received the most persistent impulses from the sections of the Union where it would have been supposed a lower standard would be accepted. It is with pleasure that we review the part taken by Southern States—by Alabama and Virginia, led by the first organized attempt in North Carolina. Of the part this JOURNAL has taken in this movement it is not necessary to write now—it is a matter of history, and as the year closes we can have the satisfaction of knowing that the Supreme Court of the State has pronounced the medical law sound. A professor of a medical college in another State writes us: "It ought to kindle bonfires of enthusiasm from Currituck to Cherokee among the people to know that at last the highest legal tribunal has made solid all the work the profession has striven so faithfully for."

Our files show how brisk the current of scientific thought has flown this year. The torrent which bade fair to be one of healing by the discovery of Kock's tuberculin, heralded in our January number, has dwindled to a small rivulet, almost losing itself now in the sands of doubt, but has not abated enthusiasm among the laboratory students in preventive inoculations. The prodigality of these researches reminds one of the extravagance of the old Southern planter, who was never weary of taking in new ground, leaving his broad domains scarred with furrows of abandoned fields bearing the unmistakable evidence of poverty, by its crop of old field sedge. Will they not have to learn, as the Southern planter is learning in sorrow and pecuniary difficulty, that small areas well tilled are surest of good results?

Events that were upon the tongue of every doctor a year ago, animating the conversation of groups at the Society, have had their day and failed. Some have been crushed to fine powder and the few grains of precious metal secured from them by the infinite labor of amalgamation. One goes in haste to Berlin to get tuberculin, that he may be foremost in the race, another to watch a hospital surgeon do a McBurney for the radical cure of hernia, or a laparotomy for appendicitis, brings his toy home, plays with it a little while, and finds that it has gone out of fashion, and he must look to his medical journal for new surprises, but all the while we notice that at every railroad village we hear of surgery being successfully done that a few years ago was the exclusive privilege of the "professor." So that if we have followed some Wills-of-the-wisp we have caught some substantial game in the chase after novelties.

With a feeling of reverence for the departed members of our profession, we have striven to put on record more substantially than formerly such biographies as we could work out by diligent search, giving when possible the best portraits we could get, as the most acceptable memorial. Who does not find pleasure in looking into the face of those who have made our profession what it is, even in a "counterfeit presentment"? So that, during the past year, we have given our readers memoirs of Dr. JOHN McDONALD, Dr. Marcellus Whitehead and Dr. James H. Dickson. For 1892 we have in prospect the elder Dr. James F. McRee, Dr. Wm. H. McKee, Dr. J. G. Tull and Dr. Nat. Hill.

Let us now, as a profession, be satisfied with the acres we have taken in, and assiduously apply ourselves to the deeper cultivation of our possessions. We have asked for great things, we have extorted these from unwilling legislators in spite of their fears lest the dear people would be offended. We have so far had wisdom to use them for the good of the people, until the people now are willing to claim the reform as their own. This makes us safe as long as we hold fast to the principles which inspired us in the beginning.

We wish our readers a prosperous new year, and we ask of them to remember our work in their prosperity. Let the new leaf turned over have written upon it, among other resolutions, one charging the memory with the duty each owes to the North Carolina Medical Journal by pen and purse.

BIOGRAPHICAL SKETCH AND PORTRAIT OF DR. JAS. FERGUS McREE.

The January number of the Journal will contain a biographical sketch and phototype portrait of Dr. James Fergus McRee, the elder. He belonged to the generation that connects us with the revolutionary period, his father being a Major in the Continental Army. He was the Bigelow of Southern medicine, a leader in medicine, an authority in the natural sciences, and who had never written a book. The portrait which accompanies the sketch was reproduced with great skill by Gutekunst, of Philadelphia, from a badly faded photograph. The enlarged portrait was retouched in India ink, rephotographed and phototyped, making a fine example of this form of illustration, besides preserving in a most satisfactory way and faithfully, the lineaments of one who had not a peer in Eastern Carolina if he had in the South.

We have in prospect three other portraits of North Carolina physicians for 1892.

AN OLD FRIEND'S LEGACY TO ALL OF US.

The following is from the fly leaf of our late departed friend, Dr. W. G. Thomas', visiting list for 1889:

"I have just written in my record of daily labor the first day of the new year, 1889. This day brings me very near my seventy-first year. In all these years past God, my Heavenly Father, has been infinitely merciful in His loving kindness and forbearance; the world has been pleasant and beautiful to me, and people good and kind altogether far beyond anything I have deserved.

"Now, on this first day of the new year, may God help me love and serve Him as I ought. I will strive to love Him and my neighbor, and do to him as I would he should do to me, and struggle to control all passions, evil tempers, and my tongue."

* * *

Salicylic Acid in solution, by injection for cystitis, is favorably mentioned in a paper by Dr. John D. Bryson, of St. Louis. In a discussion on the paper embodying the above suggestion, others mentioned the use of Thiersch's solution—a combination of salicylic and boric acids—pointing to the pain that this solution sometimes caused. Another spoke of washing out the bladder of a patient with a mild solution of chloride of zinc.

The Therapeutic Effect of Diuretin.—1. Diuretin increases the blood-pressure.

2. It should be regarded not only as a diuretic, but also as a cardiac stimulant.

3. Its most striking effects are observed in disturbances of the circulation brought about by volvular insufficiency.

4. In affections of the heart muscle its diuretic effect is much weaker.

5. In acute nephritis its diuretic action is much stronger than in chronic nephritis.

6. In cirrhosis of the liver no diuretic action is observed.

7. In the healthy individual the quantity of urine is somewhat increased.—*Journal Cutaneous and Vanerial Diseases.*

REVIEWS AND BOOK NOTICES.

MINOR SURGERY AND BANDAGING, INCLUDING THE TREATMENT OF FRACTURES AND DISLOCATIONS, Tracheotomy, Intubation of the Larynx, Ligations of Arteries and Amputations. By Henry R. Wharton, M.D.; with 403 illustrations. Philadelphia: Lea Brothers & Co., 1890. [Price $3.00.]

This is an admirable work, fully illustrative of the several departments of minor surgery. As no descriptions of manipulations can be as good as when supplemented by adequate illustrations, the author has admirably provided cuts of bandages and bandaging as applied to the subject, which are beautiful reproductions of photographs. In fact, all of the illustrations are good, and there are but few stock cuts, so familiar in the older books.

The author has succeeded in fulfilling his design in the preface to present a concise description of the various bandages, surgical designs and minor surgical procedures which are employed in the practice of surgery at the present time.

The section on fractures and dislocations is thoroughly well prepared, the text being on a par with the illustrations, which we have already praised. At the risk of appearing to our readers to be best pleased with the newest and latest book, we commend this one unequivocally.

SURGERY; ITS THEORY AND PRACTICE. By William Johnson Wallsham, F.R.C.S. Third Edition. Revised and Enlarged, with 318 illustrations. P. Blakiston Son & Co., Philadelphia. [Price $3.00.]

This is a thoroughly systematic volume of the *Student's Guide Series*, compact and fairly well supplied with illustrations. Diseases of the skin, and diseases of the eye and ear, special departments not usually attempted in books for students are considered, and a small space given to the commoner forms of surgical deformities, especially talipes and knock-knees. Intubation is not accorded much space, nor is it dwelt upon with much favor by the author, as a substitute for tracheotomy. The space given to antiseptic injunctions is short and not very weighty, but we must consider that every author must believe himself now to be writing for a generation of medical men who need no indoctrination in the principle of antiseptics.

TABLES FOR DOCTORS AND DRUGGISTS. Compiled by Eli H Long, M.D. Detroit: George S. Davis, 1891.

The tables comprise: 1. Table of solubilities, giving ratio of one part of the drug or chemical to the proportion of water, of alcohol, and then of other solvents at a given degree of heat. 2. Table of Reactions and Incompatibles, giving in the first column the substance to be examined, then the reaction as to litmus, the name of the reagent, and the result as precipitate, coloration, etc. 3. Table of Doses and Uses of medicines alphabetically arranged, giving first (if a drug) the part used—whether seed, root, leaf—the doses in metric valve and in grains, and the uses to which it is applied. 4. Table of Specific Gravities at 15° C. 5. Table of Poisons and Antidotes—in the first column the name, then the toxic dose, the action, prominent symptoms, antidotes and treatment.

It cost the compiler a great deal of hard work to make such a book, and it will be found to save those who need it a great deal of hunting to get at these crystals which he has strung together in an orderly way, avoiding all unnecessary text.

ON THE MEDICAL AND SURGICAL USES OF ELECTRICITY. By Geo. M Beard, A.M., M.D, and A D. Rockwell, A.M., M D. Eighth Edition. With over 200 illustrations. New York: William Wood & Co., 1891. Pp. 788.

Dr. Beard died ten years ago, leaving the revision of this valuable work to Dr. A. D. Rockwell, and it has now reached its eighth edition, easily keeping the lead in the rivalry of authorship. The American profession is highly favored in having so many diligent electrical therapeutists pursuing this one study with such untiring energy, and to no authors do we owe so much as to Drs Beard and Rockwell.

The multiplication of books on electricity as applied to medicine need not confuse the student who wants to know the best that is known, as he can easily settle his difficulties by keeping up with the editions of this work, being, in our opinion, the best exposition of the subject.

THE PRACTICE OF MEDICINE. By M. Charteris, M.D., Professor of Therapeutics and Materia Medica, Glasgow University. Sixth Edition. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street.

This is one of the *Student's Guide Series*, so well known to Scotch and English medical students, brought before the American student by the publishers. It is a little pudgy volume, 4x6¾ inches, 680 pages, and a perfect model of clear, concise treatment of the practice of medicine. We have seen no students' manual that we like as well as we do this, and we doubt if it has its equal. It has many good, teaching illustrations, and is well printed.

SAUNDERS' POCKET MEDICAL FORMULARY, WITH AN APPENDIX. By William M. Powell, M.D. Philadelphia: W. B. Saunders, 913 Walnut Street. [Price $1.50.]

A new pocket medical formulary! But so it is, a little volume for the overcoat pocket, indexed—with a thumb index—containing 1,734 formulas, a general index in addition, and all supplemented with formulas and doses for hypodermatic medication, a section on poisons and their antidotes, a section with diagrams, of pelvic diameters, diet table, table for calculating period of uterogestation, and drugs and materials used in antiseptic surgery.

MICROSCOPICAL ANATOMY OF THE HUMAN HEART.—Arthur V. Meigs (*Trans. Col. Physicians of Phil.*, 1891, and *Amer. Journal of the Med. Sciences*, June, 1891) finds that the return vessels in the substance of the heart, except a few of the largest size, have thin walls and a structure identical with that of the most minute capillaries. The arterioles, on the contrary, have the usual three coats. At the points where these return vessels are formed by the union of capillaries, the number of capillaries going to form the return vessel is very much greater than at the corresponding positions where arterioles break up, and the angles of union are much less acute. The author has found small spaces in the muscular fibres of the normal human heart, and he regards them as capillaries. It is to be noted, however, that although the author figures these spaces in the muscular fibres, he has not injected them from the coronary arteries.—*Sup. to Brit. Med. Jour.*

THE BUNCOMBE COUNTY MEDICAL SOCIETY, ASHEVILLE, N. C.

The regular monthly meeting of this Society was held December 7th, 1891, President Fletcher in the chair:

Dr. Crawford read a paper upon Puerperal Eclampsia, in which he favored the uræmic theory as the etiological factor In the treatment he advocated prompt delivery, venesection, full doses of morphia and hot fomentations, relating several successful cases treated in that way.

Dr. Reagan said that he had experience with twelve cases having occurred in his practice, and he did not lose a single case. He favored prompt delivery, but instead of using morphia, he employed chloroform anæsthesia.

Dr. Purefoy said there was nothing definitely known of the etiology, but, on the whole, favored the uræmic theory.

Dr. Watson called attention to the obstructed kidney through pressure of the pregnant uterus, and recommended venesection only when there is a full, bounding, radial pulse, in the absence of distinct pulsation in the femoral arteries, and thinks he has seen benefit from the exhibition of bisulphate of quinia.

Dr. von Ruck reviewed the theories of Frerichs and Traube, and showed that the uræmic theory could apply, at most, to but few cases, and the same was true of the so-called mechanical theory of Traube, in which anæmia, hydræmia and cerebral œdema are considered as factors. He said that the essentials for true eclampsia are cerebral anæmia, clinically associated with structural or functional disturbances of the kidney, albumen is not necessarily present.

He called attention to the fact that recently Letzerich did demonstrate a specific gem, in one form of nephritis, and that he succeeded in making a pure culture of them, and in reproducing the disease in animals.

Referring to toxalbumins and leucomaïnes as products of specific germs, and to their specific effect produced according to their kind, and to the culture soil upon which they are grown, he believed that it would eventually be shown that a pathogenic germ was present in the cases under consideration, that their rapid growth and development was favored in the presence of diseased or obstructed kidney in the pregnant woman and that the toxic principle produced by these germs acted through the nerve centers in producing the cerebral anæmia which later was the direct cause of the eclampsia attack, similar as, for instance, occurs in tetanus.

Clinically, true eclampsia should be distinguished from uræmia, which may occur in the course of Bright's disease in a pregnant or puerperal woman, from the cases of extreme anæmia and hydræmia which are in eclamptic women, as also from epilepsy, hysteria and other convulsive seizures. .

In the prognosis as well as the necessity for immediate delivery, the pulse is the most important guide as long as it is good and not unduly accelerated, undue haste must be avoided.

The point taken by Dr. Watson regarding venesection Dr. Von Ruck considers a good one.

In the treatment he insisted upon the prompt employment of the narcotics to the full degree; chloroform narcosis may be supplemented or substituted by morphia, chloral, or both, and the patient must be kept under the influence to a degree that she is perfectly passive until delivery is effected.

The annual election of officers followed and resulted as follows :

President—Karl Von Ruck, M.D.

Vice-President—G. W. Purefoy, M D.

Secretary—W. P. Whittington, M.D.

Treasurer—H Longstreet Taylor, M.D.

Members of Council—M. H. Fletcher, M.D.; L. B. McBrayer, M.D.; Charles E. Hilliard, M.D.

CORN CURES.—Professor Whelpley gives some interesting facts in *Notes on New Remedies* about corn cures. The sale of plasters and other applications for corns is a large business, and all these preparations have as their active basis salicylic acid. It is combined with collodion and 9 parts to 48 parts and painted over the corn; it is combined with rosin and balsam fir, with lanolin, 10 drachms of lanolin to 6 salicylic acid; with simple cerate, one of the acid to six of the cerate, and so on.

CORRESPONDENCE.

A LARGE CHILD.

Messrs. Editors North Carolina Medical Journal:

Dear Sirs :—On the night of the 20th November, at 11 o'clock, I was called to see Mrs. H., living seven miles from here. When I reached the house I found a stout, healthy woman, in good circumstances, 23 years of age, weight 130 pounds, in labor with her first child, though about twelve months before she had had a miscarriage at about the third month. The mouth of the womb was dilated about the size of 25 cent piece; pains not very severe; head quite high up, though I could make out the presenting vertex. I gave 15 grains of chloral and waited. At 3 o'clock a. m. pains were good; mouth of womb dilated and bag of water about forming. Things went on in this way until about 2 o'clock the next morning, when the water broke. Presentation vertex R. O. A , and pains good, but no further descent of the head occurred for more than an hour, when at 9½ o'clock I applied the forceps, and *after a time* delivered the head, without rupture of the perineum, but on the passage of the shoulders there was a slight rupture. As soon as possible I weighed the child and found it 15 pounds full weight. At this date mother and child are both doing well.

I think this will do pretty well for a North Carolina giant.

Very truly yours,
Thomas Hill, M.D.

Goldsboro, N. C., December 3, 1891.

* * *

Treatment of Croup.—Dr. Betz (*Revista de los Hospitales*, No. 30, 1891), in a desperate case of croup, used inhalations of the following with success :

℞.—Ether	grammes iv.
Ether acetic	" ij.
Menthol	gramme 0.6.

Inhale every 15 to 20 minutes.

In one day the symptoms had disapeared. The child recovered. Inhalations of ether diminish congestion, tumefaction and œdema of the laryngeal mucous membrane.—*Medical and Surg. Reporter.*

CURRENT NOTES.

Modified Phenylhydrazin Test for Sugar.—The phenylhydrazin test for sugar in the urine is not altogether satisfactory, as it sometimes gives yellow crystals in the absence of sugar, and then again it sometimes fails to detect sugar when it is present. Dr. Havelburg, of Rio de Janeiro, has suggested a modification of this test which he claims gives trustworthy results, and which is of easy application. About 20 grains of hydrochlorate of phenylhydrazin, and about 30 grains of acetate of sodium, are placed in a test-tube. This is filled almost half-full of water and slightly warmed. An equal volume of urine is then added, and finally a small quantity of chloroform, and the whole shaken up together. The test-tube is now set aside, when the chloroform soon settles to the bottom, and, if sugar be present, a layer of fluid containing canary-yellow crystals forms just above the chloroform. By removing the crystals with a pipette and subjecting them to the microscope, they are seen to consist of yellow needles, often in groups, radiating from a central point. If there be a moderate amount of sugar present, the yellow zone is quite visible to the naked eye. The reaction is said to be more marked if the fluid is boiled before the chloroform is added, but in this case care must be taken to allow it to cool again, for if the chloroform is added while hot an explosion might occur. This test is extremely delicate, and shows the presence of sugar where Fehling's test has failed.—*Centralblatt für. klin. Med.*

The Doctor in Modern Society.—The physician of to-day exercises more or less influence upon all the affairs of life. In a sense he is the supreme educator, for juries refuse to convict; philosophers pause before considering abnormities of will, memory or personality; the historian waits in his description of prophet and sibyl until the medical man has spoken. It is impossible to build a house properly, bring up children aright, discipline an army, or live with structure healthily developed and function of every kind unimpeded—which is the nearest approach to happiness for any one—without first consulting the hygienist. The modern doctor is everywhere—in society, in politics, mixed up with fine arts, religion and philosophy. In a little paper written for *Medicine Moderne*, Maurice de Fleury thinks the medical man has just cause to be proud of his present position. Alphonse Daudet calls him the last priest and supreme belief. Painters and sculptors owe much to medical science. Anatomy, for instance, is the basis of their calling. The debt of novelists is even greater. The naturalist school works on quasi scientific lines, and adopts methods common to all investigators of facts. The representatives of literature owe as much to Claude Bernard as to Balzac. This century is one of science, and among *savants* medicine occupies the first rank, because it is of wider scope and more human than any other branch. In his "Philosophical Dialogues," Ernest Rénan forecasts a social state of great splendor, in which the *savant* is king. Be the realization of this as it may, it is a significant fact that the practical needs of humanity are best known to the physician, who, in spite of himself, thus becomes a functionary of high order, invested in great degree with the welfare and happiness of the human race.—*Med. Record.*

ECZEMA OF CHILDREN.—The following formula is recommended for eczema of children:

℞.—Bismuth subnitr.	10.0.
Zinci oxyd	2.0.
Glycerini	8.0.
Acid carbol	gtt xx.
Vaselin. albi	30.0. or

℞.—Bismuth subnitr.	20.0.
Zinci. oxyd	5.0.
Acid carbol	2.0.
Vaselin. albi	30.0.

M. S. Ext. Use.

When there is much irritation and itching:

℞.—Bismuth submit	5.0.
Glycerine	20.0.
Acid. carbol	gtt xij.
Aquæ rosar	30.0.

M. S. Shake well and apply with a soft brush.—*Deut. Med. Woch.—Weekly Med. Review.*

PHYSICIANS and other readers of the JOURNAL should not fail to examine its advertising pages, where much that may prove of interest will be found.

Stites' Test for Carcinoma.—On October 17th, at the surgical clinic, I removed for atrophic scirrhus the right breast of a female, aged 61. In the presence of the class the tumor was immediately subjected by Dr. W. M L. Coplin to the test of Mr. H. J. Stites, of Edinburgh. The method of examination was that furnished me by Professor Chiene, of Edinburgh, which I give in his own words:

1. Excise the mamma.
2. Wash thoroughly in water to remove blood.
3. Place in a 5 per cent. solution of nitric acid (B. P) for ten minutes.
4. Wash in cold water for five minutes.

By the time these procedures are executed the axilla is cleaned out and the vessels tied. The mamma is now examined; the carcinomatous structure appears a dull white, like the eye of a boiled fish, the healthy issue translucent When any such reaction is seen additional tissue should be removed at the corresponding point.

In removing the carcinomatous breast, Professor Chiene directs that its relations to the circumferential tissues should be marked by the knife, so that after the test has been applied to the mass excised the situation of any outlying, unremoved diseased areas can be fixed.

In the case operated upon the foregoing directions were carefully followed by Dr. Coplin, who demonstrated to the class that the infected tissue became of the characteristic "dull white," resembling egg albumen, while the uninfected tissue appeared translucent and gelatinoid, affording a striking contrast to the carcinomatous structures. The reaction in the axillary glands seemed even more marked than that in the breast; it therefore would, perhaps, be well always to retain one gland for comparison with those treated with the acid.

The test described by the distinguished Scottish surgeon as devised by his assistant, Mr. Stites, appears to be a most perfect one. It is to be hoped that future trial will show that it can be depended upon, and that it can really be accepted as a gauge of the thoroughness and sufficiency of removal of carcinomata, not only of the mamma, but also of other parts.—John H. Brinton, M.D., in the *Medical News*.

READING NOTICES.

Mrs. C. P. Huntington has given the Directors of the New York Post Graduate Medical School $2,000, a sum sufficient to defray the expenses of the Lying-in Department for one year. Professor von Ramdohr will have charge of this department at 543 East 13th Street, where instruction in Obstetrics will be given to graduates in medicine only.

Happy and content is a home with "The Rochester;" a lamp with the light of the morning
For catalogue, write Rochester Lamp Co. New York.

Plain Talks to Physicians.—What would be thought of a lawyer with an important case in hand who would take no measures to secure the presence of his most important witness on the day of his trial; or the soldier who, with the most approved weapons, was careless of his ammunition. Theirs would be short careers. And yet the physician with life dependent upon his efforts, equipped with a thorough medical education, with a full appreciation of the case in hand, and who, with reliable drugs could effect a cure, often prescribes his remedies with no knowledge of their maker, and therefore of their quality. Is this common sense or common prudence? Do you purchase your hat or your coat after this fashion? Certainly not; then why your medicines? Have you ever thought of it in this light, Doctor?

You must know that there are reliable and worthless pharmaceuticals. Your druggist may be perfectly honest in his convictions that his stock is reliable, but too few pharmacists ever test the quality of the drugs purchased? Many are influenced to sell an inferior quality through the greater margin of profit in it. The only safe rule is to specify, in prescribing, the product of the manufacturer that you know to be absolutely reliable, and see that your request is carried out, and that your druggist keeps in stock the products you want.

Parke, Davis & Co. claim that their facilities for securing the highest quality of drugs and their preparations are unequalled. They guarantee every unopened package from their laboratory absolutely as represented.

SYR. HYPOPHOS. CO., FELLOWS

Contains the Essential Elements of the Animal Organization —Potash and Lime.

The Oxydising Agents—Iron and Manganese;

The Tonics—Quinine and Strychnine;

And the Vitalizing Constituent—Phosphorus; the whole combined in the form of a Syrup, with a **Slightly Alkaline Reaction.**

It Differs in its Effects from all Analogous Preparations; and it possesses the important properties of being pleasant to the taste, easily borne by the stomach, and harmless under prolonged use.

It has Gained a Wide Reputation, particularly in the treatment of Pulmonary Tuberculosis, Chronic Bronchitis, and other affections of the respiratory organs. It has also been employed with much success in various nervous and debilitating diseases

Its Curative Power is largely attributable to its stimulant, tonic, and nutritive properties, by means of which the energy of the system is recruited.

Its action is Prompt; it stimulates the appetite and the digestion, it promotes assimilation, and it enters directly into the circulation with the food products.

The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; *hence the preparation is of great value in the treatment of mental and nervous affections.* From the fact also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

NOTICE—CAUTION.

The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, **finds that no two of them are identical,** and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, **in the property of retaining the strychnine in solution,** and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. **Fellows.**"

As a further precaution, it is advisible that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

Medical Letters may be addressed to:

Mr. FELLOW, 48 Vesey Street, ew York.

PTONOIDS BEEF (POWDER)

Sterilized { BEEF, MILK, GLUTEN, } Partially Peptonized.

THE MOST CONCENTRATED and NUTRITIOUS FOOD in the MARKET

Received the only GOLD MEDAL and Highest Award at the International Health Exhibition, London, after a critical examination of all the Beef and Concentrated Food Productions, by a Jury composed of the best Chemists in Europe.

There is no food preparation that compares with it in nutritive properties.

It is partially prepared for assimilation, and, therefore, makes less demand upon the digestive powers of the gastric juice.

Being in the form of a dry powder and *sterilized*, it will keep in any climate. It contains 95 *per cent.* of nutritious matter.

The use of BEEF PEPTONOIDS is indicated as follows:

Convalescence from all diseases, Pulmonary Affections, Pneumonia, Phthisis; Dyspepsia, Gastritis, and all Stomach Ailments; Fevers, Diarrhœa, Dysentery. and all Intestinal Diseases; Marasmus, Bright's Disease, Diabetes, and Excessive Use of Alcoholic Stimulants. BEEF PEPTONOIDS may be given per rectum in all cases where the stomach cannot digest food, and in Debility resulting from any cause.

PEPTONOIDS LIQUID.

This preparation represents BEEF PEPTONOIDS in the form of an elegant cordial, all constituents being entirely digested and ready for assimilation.

LIQUID PEPTONOIDS is a nourishing peptogenic liquid stimulant with the albuminoids in a soluble state with only sufficient spirits added to preserve it. It contains the largest amount of albuminoid principles and the least amount of alcohol that is possible to use and make a stable compound.

LIQUID PEPTONOIDS will keep indefinitely; its flavor and palatability are such that many who have taken it liken it to a delicate cordial. It will readily be taken by patients who are unable to injest food in any other form (in these cases it has been found of the greatest service). In convalescence from fever and other diseases, in loss of appetite, weak digestion and gastritis its effects are positive, and it will never fail to give perfect satisfaction.

There is no preparation in the market that has been recommended so highly by physicians who have carefully tested it.

DOSE.—For an adult, one tablespoonful three times to six times a day children in proportion.

PHOSPHO-CAFFEIN COMP.

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A SEDATIVE NERVE AND BRAIN FOOD.

The most efficient and palatable preparation in **Nervous and Sick Headache Neuralgia, Insomnia, Neurasthenia,** and **General Nervous Irritability.**

Each dessertpoonful contains :—
- Caffein.
- Acidi Phosphorici, āā grains, ss.
- Antipyrin.
- Ext. Apii. Grav. Dulc. (Celery) āā grain j.
- Sodium Bromide, grains v.

DOSE.—One or two heaping teaspoonfuls in a half tumbler of water.
Put up in 4 oz. and 8 oz. Bottles

THE ARLINGTON CHEMICAL COMPANY,

(Successors to Reed & Carnrick for the above preparations,)

Yonkers, N. Y.